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THE PENNSYLVANIA MEDICAL JOURNAL

OCTOBER, 1940 - SEPTEMBER, 1941

REPRESENTING

THE TRANSACTIONS OF THE MEDICAL SOCIETY
OF THE STATE OF PENNSYLVANIA

AT ITS ANNUAL SESSION HELD AT

PHILADELPHIA, PA., SEPT. 30 TO OCT. 3, 1940

VOLUME LXX

(VOLUME 44 OF THE JOURNAL)

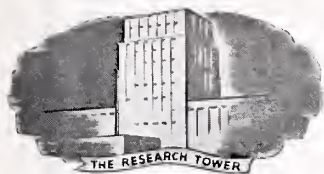


Edited for the Society under the supervision of the
Publication Committee

230 State Street, Harrisburg, Pa.

The Evangelical Press
1941

STUDIES IN THE AVITAMINOSES



This page is the tenth of a series on vitamin deficiencies presented by the research division of The Upjohn Company because of the profession's widespread interest in the subject. A full color, two-page insert on the same subject appears in the September 14 issue of The Journal of the American Medical Association.



Photograph courtesy of C. P. Rhoads, M. D., Memorial Hospital for the Treatment of Cancer and Allied Diseases, New York City.

The Glossitis of PELLAGRA

The glossitis of pellagra is usually among the early symptoms. It is manifested initially by hyperesthesia, which frequently develops before objective signs. As the deficiency state becomes more pronounced, desquamation of the superficial epithelium gives the tongue a beefy red, smooth, dry appearance. During desquamation, secondary infection with Vincent's organisms or *Monilia* frequently occurs, producing a thick white or yellow coating which ultimately is shed. The tongue becomes swollen, and fissures and aphthous ulcers develop on its surface. The inflammatory process spreads to the buccal mucosa, the gums, the lips and the pharynx, producing superficial ulcerations in these areas.

The Dermatitis of PELLAGRA

The skin lesions of pellagra are considered one of the diagnostic signs; they are seen on the hands, neck, under the breasts, on the perineum, and on the legs. They usually are bilateral and are sharply demarcated from the surrounding normal skin. At first the involved area becomes erythematous and tender, resembling a mild sunburn. The skin is tense and swollen; itching and burning may be severe. At this stage vesicles or bullae frequently appear. After a period of weeks or months, the edema subsides, the erythema disappears, and the involved skin may assume a more normal appearance. Residual pigmentation persists, however, especially about the hair follicles.



Illustration courtesy of Henry Field, Jr., University of Michigan Medical School, Ann Arbor.





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VOLUME 44, NUMBER 1

OCTOBER, 1940

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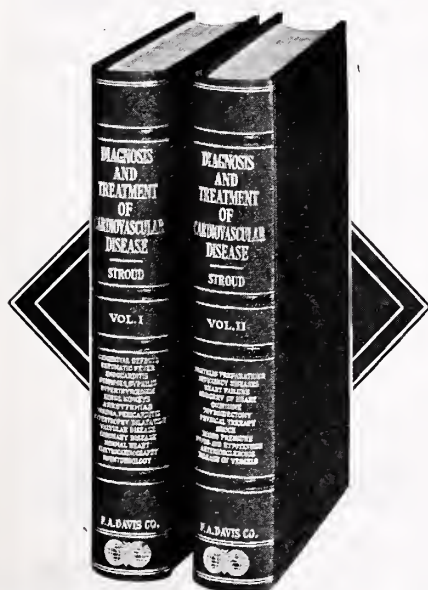
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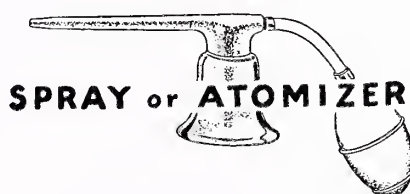
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LETTERS

A Resolution

GENTLEMEN:

The Medical Association of the State of Alabama begs to call to your attention the following important resolution adopted by it on Apr. 18, 1940:

WHEREAS, There is a growing tendency to patent drugs in the name of universities and foundations in connection with universities; and

WHEREAS, These patents are presented to the institutions by the discoverers; and

WHEREAS, The discoverers of the products are usually medical men; and

WHEREAS, The effect of the patents is to increase the price of the drugs because of the royalties imposed by the said foundations; and

WHEREAS, A considerable proportion of patients in need of the new products are prevented from buying them by reason of the necessarily high prices asked; and

WHEREAS, This hardship is imposed upon the needy public through the acts of the discoverers under the guise of foundations; be it

Resolved, That the Medical Association of the State of Alabama condemns as unethical the patenting of drugs or medical appliances for profit whether the patent be held by a physician or be transferred by him to some university or medical research foundation, since the result is the same, namely, the deprivation of the needy sick of the benefits of many new medical discoveries through the acts of medical men; and be it further

Resolved, That copies of these resolutions be sent to the leading medical associations and journals, to the leading medical colleges of the United States and Canada, and to the secretaries of all state medical associations as well as to that of the District of Columbia.

DOUGLAS L. CANNON, M.D., *Secretary*,
Montgomery, Alabama.

Premarital Examination Fees

GENTLEMEN:

I just read the form letter that was sent to the State Society members regarding the high number of premarital serologic tests which are being sent in as indigent and the liability of the doctors for any violation of the act.

I cannot refrain from sending you my reactions, though no doubt you have heard similar ones before. It almost appears as though the medical societies had "ganged-up" on the public, to make some money under the pretext of an antisyphilis program. Most folks are of the average or so-called "middle-class" income group and the cost imposed on them by this new law, in getting married, is *far too high*. Knowing as you and I do the details of the Wassermann test, surely we can agree that the regular fee to the laboratories of \$5.00 is quite a money-maker. Then the physician's fee is added on to this for both parties. The society complains about doctors sending in too many specimens for free

tests, but do you know also how many of the doctors get a minimal or *no* fee for doing the "book-work?" It seems to some of us like another phase of the New Deal's "raw deal," like the old medical relief, where the doctor was left out on the limb and he had to "load" his listing to make out.

QUESTION: When the state passed this law, why was not some *reasonable* fee arranged? I feel free to talk, for so far I have not sent in one indigent test.

Let's hear more about this.

HARVEY F. ENYEART, M.D.,
Pittsburgh, Pa.

GENTLEMEN:

The form letter sent out by the State Society in regard to the sending of blood to laboratories in the cases coming under the Pennsylvania premarital law is certainly timely.

I have not found any applicants for this blood test unable to pay the laboratory fee of \$3.00 each, which is required in this vicinity. There was no objection, and to date I have not sent any for free laboratory work anywhere.

Let us practice what we would like to preach. We ourselves are probably making more persons appear to come under the head of indigency than any other element.

HARRY Z. HIBSHMAN, M.D.,
Philadelphia, Pa.

These letters were received in response to a letter mailed by the State Society to the membership on July 19, 1940. A discussion of this problem appears on page 68 of this issue.—
THE EDITORS.

Junior Medical Officers Wanted

GENTLEMEN:

The U. S. Civil Service Commission has announced examinations to fill 2 classes of junior medical officer positions (rotating internship and psychiatric resident) at St. Elizabeth's Hospital, Washington, D. C. The salary for the positions is \$2000 a year, less a retirement deduction of 3½ per cent and a deduction of \$60 a year for quarters, laundry, and medical attention.

For the rotating internship position, applicants must be fourth-year students in a Class-A medical school; however, they cannot enter on duty until they furnish a certificate showing completion of the medical course prior to June 30, 1941.

For the psychiatric resident position, applicants must have completed their fourth year of study in a Class-A medical school subsequent to Dec. 31, 1937, and must have the degree of B.M. or M.D. In addition, before entrance on duty they must have completed a 1-year rotating internship.

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THE TRACE ELEMENTS IN BIOLOGICAL MATERIALS

● Students of nutrition recognize a total of some thirteen inorganic elements either as essential to humans or, in our present state of knowledge, as probably desirable for complete nutrition. For certain of these elements—definitely proven to be essential—reasonable estimates of the daily human requirements have been made. In addition, the distribution in common foods of minerals, especially those essential minerals most apt to be deficient in the diet, is well understood. Certainly, enough information appears to be at hand to insure an optimal supply for the individual of these essential or desirable elements through modern diet planning.

However, for many years it has been known that traces of elements, other than those known to be essential, may be present in animal and plant tissues (1, 2). Improvements in analytical techniques have been made and greater precautions observed in the handling of the materials used for analysis in studies reported within recent years. The results of these newer investigations have only served to confirm the fact observed in the older studies, namely, that "trace elements" may be present in biological materials, including mammalian tissues, along with the other elements recognized or accepted as essential in nutrition.

A fairly complete list of the trace elements includes silicon, aluminum, fluorine, nickel, arsenic, bromine, rubidium, barium, and selenium. The persistent occurrence of these elements in foods and in animal tissues logically raises two questions. First, are these elements essential in human nutrition, and second, assuming them to be essential, how might an adequate supply be obtained.

For the first of these two questions, there is as yet no conclusive answer (1, 2). Study of the possible part the trace elements may play in normal body functions comprises one of the frontiers of nutritional research. The fact that the trace elements are more or less consistently present in animal tissues is not necessarily conclusive proof of their essential character in nutrition; further research alone must decide that point.

The second of the above questions can be answered somewhat indirectly. It is not illogical to believe that we already recognize as essential those elements whose serious deficiency in the diet may produce the most serious irregularities in the human organism. Further, as stated above, the distribution of the known essential minerals in foods is well understood and by modern diet planning an adequate supply of these nutrients should be readily attained. It is not meant to imply that all of the trace elements are without significance in human nutrition, or that one essential nutrient is more important than another. Instead, it is intended to suggest that the distribution of all elements in foods is probably such that a protective diet—calculated to supply optimal amounts of all known essential minerals—should also supply the proper amounts of any unknown essential elements, as well.

Thus, the need for following the modern pattern of diet formulation is further indicated. The most practical means of insuring the needed quantities of all essential nutrients—recognized or as yet undiscovered—is to plan the ration according to the concepts and teachings of the modern science of nutrition. In pursuing the modern diet pattern (2), commercially canned foods should prove both valuable and convenient.

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REFERENCES

1. 1939. Mineral Metabolism, Alfred T. Shohl, Reinhold, New York.
2. 1939. Food and Life, Yearbook of Agriculture, U. S. Dept. Agri., U. S. Government Printing Office, Washington, D. C.

We want to make this series valuable to you, so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned-foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles. This is the sixty-fourth in a series, which summarizes, for your convenience, the conclusions about canned foods reached by authorities in nutritional research.



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Baptism

GENTLEMEN:

Under separate cover we are sending you a copy of the fourth edition, published in 1939, of our booklet, "Baptism of the Infant and the Fetus," an outline for the use of doctors and nurses. The brochure is now considered the standard work of its kind and we should like to bring it to the attention of the physicians of the country. Up to now notices of the book have been sent almost exclusively to hospitals.

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We will appreciate it very much if you will bring this book to the attention of your readers by a book review or notice in your medical journal.

REV. J. R. BOWEN,
The Nurses' Apostolate,
St. Joseph Mercy Hospital,
Dubuque, Iowa.

A review of this brochure appears in the Book Review section of this issue.—THE EDITORS.

ADVISES STUDYING EFFECT OF POSTURE ON HIGH BLOOD PRESSURE

Patients with high blood pressure should be studied with regard to the effect of posture on the hypertension and those in whom the pressure falls markedly when confined strictly to the recumbent posture should have their urinary tracts studied by roentgen ray, and if nephroptosis is found, some supportive measure for the latter should be instituted, William S. McCann, M.D., Rochester, N. Y., declares in *The Journal of the American Medical Association* for Aug. 24 in a paper prepared in collaboration with Monroe J. Romansky, M.D., also of Rochester.

The author says that such a study of the effect of posture on blood pressure should be made by comparing the pressure when standing upright with that found when lying flat.

By supporting the kidneys by such measures as corseting, the blood pressure may be lowered and stabilized and many of the symptoms which accompany the hypertension may thus be relieved. It is pointed out, however, that "nephroptosis does not always result in hypertension."

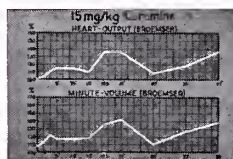
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LEST WE FORGET

Presidential Address

FRANCIS F. BORZELL, M.D.

Philadelphia, Pa.



TO THE members of The Medical Society of the State of Pennsylvania, permit me to express my deep appreciation of the honor you have bestowed upon me in electing me your president for the ensuing year.

Organized medicine is rapidly assuming an important rôle in the affairs of the nation, as well as locally. This rôle reaches so far beyond the narrow horizon of the personal interests of the profession itself that the duties of its titular head assume an importance and give that office a weight of responsibility of no mean proportions.

I am deeply mindful of this responsibility and pledge to you my fullest efforts. I am keenly aware of the seriousness of the many problems facing us in the next year and I plead for the complete co-operation of the other officers, the Board of Trustees, the various committees, and the county societies, to the end that our organization may retain its usefulness to the profession and to society at large.

The intimate details of society administration and organization will be discussed more fittingly on other occasions. I will, therefore, present for your consideration some broader aspects of professional problems that have a direct bearing on professional and public welfare.

The medical profession in the past few years has been subjected to a barrage of criticism coming from men in high places. These attacks have reached the point of actual persecution and culminated in charges of criminal violation of the Sherman Anti-Trust law. According to our accusers, we are members of a trade, banded together to restrict the delivery of medical services for selfish ends. This is enough to arouse our indignation and we could easily spend time inveighing against the injustices of the charges. I would rather, however, attempt a more con-

structive discussion of the question of how we can make our profession more valuable to society, lest in our righteous wrath we forget that ours is a profession of service committed to principles of continuing progress rather than just selfish defense of our own interests. There is grave danger that in the bewildering fog of social upheaval at home and across the seas we may forget our priceless heritage and lose sight of those principles upon which our glorious history of self-sacrifice and devotion has been founded.

Were the health problems of the people purely those of science and technic, the functions of our organization would be simple. If these problems could be reduced to simple formulae, and if the insufficiencies or weaknesses of medical care were purely technical, then the task would be one only of perfection of technic and the solution of technical problems. If we needed to concern ourselves only with the scientific advancement of our profession, organized medicine could continue to be largely a forum for discussion and dissemination of technical knowledge. In fact, for years this has been the major activity of the American Medical Association, the state medical societies, and the county societies.

In recent years, however, we have found ourselves faced with social and economic problems that seem to demand adjustment. As is so often the case, solutions for these supposed social deficiencies have been offered without regard for causative factors. This has been the case with medicine. Social-economic shortcomings have given rise to all sorts of proposals for correction, many of which are based on the error of mistaking effect for cause. In no field has this been more true than in medicine. What deficiencies there are in the distribution of medical care have been laid at the door of the medical profession itself, when in fact they were due to economic, sociologic, and biologic conditions over which the medical profession has no control. False premises have led to illogical deductions, and in-

Read before the General Meeting of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 1, 1940.

ordinate stress has been laid on economic considerations. This has reached the point where the people are led to believe that the high road to the Utopia of a perfect national health is by way of lowered costs. Were the difficulties wholly economic, then obviously the solution would be economic, but the problem is not so simple. It has been ignorance of basic social and biologic laws, as well as disregard for human reactions, or attitudes, to matters of individual health and living that has led to the bizarre schemes of social insurance.

The medical profession has devoted itself to the task of disease prevention and cure to the end that disease might be eradicated. It has been prodigal in expenditure of resources, whether financial or scientific, in the continuous battle to improve its armament. It has never been content with its accomplishments nor is it content today. A firm conviction that its duty to society is primarily to improve the quality of its service has led to a complete disregard of costs, either to itself or to society. This attitude has not been shared by society. Consequently, on the one hand we are faced with the incompatibility of the people demanding medical services at lower costs, while on the other hand the medical profession continues to render increasingly more efficient services in the face of diminishing returns. Serious efforts have been made to reconcile these 2 approaches, but without any success. The statement that the medical or health bill for society is too large is but an expression of the reluctance of society to pay the price for good health as well as an evidence of complete failure to place full value on man's greatest asset—good health.

Nevertheless, organized medicine continues to uphold its responsibility as the custodian of the health of the people. The medical profession has tried for a long time to teach society that it is only safe in the hands of those who have been adequately trained to treat human ills. It has set up standards within its own organization and fought for the establishment of legal protection of the people against those insufficiently qualified to accept responsibility as guardians of health.

With greater advances in scientific knowledge and increased social complexities, requirements have become more exacting. More accurate methods of diagnosis have developed hand in hand with more specific treatment. Consequently, the more accurate the diagnosis becomes, and the more specific treatment becomes, the less excuse is there for errors or wide variations in judgment. However, the ultimate in scientific accuracy has by no means been reached.

Medicine is not yet reduced to perfect formulae, in which variables in human reactions no longer play a part. Medical sciences tend to deal with disease, while the physician must deal with a human individual who happens to be a victim of disease. Pneumonia as known in the laboratory is one thing, specific in its biologic and chemical behavior, but pneumonia within the body of a human, as the physician sees it, becomes a more complex problem.

Modern society presents a picture of contradictory design, particularly as applied to human values. There are those who would submerge all individual human considerations in the body of that intangible structure—"the state." There are others who look upon the individual as of first importance. Although medicine is primarily concerned with the individual, it has not escaped the influences of some of these trends. Medicine and medical science are, nevertheless, still headed in one direction and one direction only—that is to advance along all health fronts for the ultimate purpose of improving the health of the individual. This calls for the utilization of all measures, whether preventive or curative, that art and science can develop. The emphasis, however, is on the individual and mass results are counted only by a summation of individual achievements.

Any preachments or proposals which tend to give the impression that disease is a simple process, reducible to simple all-inclusive formulae, do infinitely more harm to society than they do by affecting the income of the physician. Cults, based as they are upon ideas that all disease can be explained by a few simple hypotheses, such as nerve pressure from bone disarrangements, faulty cerebration, or what have you, are vicious, not because of the economic encroachments of these practitioners on the prerogatives of the medical profession but because they inculcate a superficial conception of disease. This sort of influence makes public education in disease prevention and treatment very difficult. Ignorance of the most elemental facts of human physiology and anatomy on the part of the masses of our people makes them easy prey for all sorts of cults and nostrum vendors. This ignorance leads to the ready acceptance of every concept of disease and its treatment as long as it has the appeal of simplicity. The uninformed have visions of perfect health by alkalinization, vitamins, laxatives, bizarre diets, health foods, and so on ad nauseam. The average individual has a more comprehensive knowledge of the workings of his automobile than he does of his own body, yet

he will call in an expert to cure the ills of his car, but is slow to consult the expert when his human machinery fails to perform properly. The basic problem is not the "costs of medical care" but the costs of lay ignorance of medical matters.

The truth of this statement can easily be seen. We need but consider the millions of dollars spent on all sorts of cure-alls, self-medication, intensively advertised by press and radio. We need but witness the throngs that follow the lures of the Pied Pipers playing the tunes of foot adjustment and goat-gland implantation. The assumption that the masses are clamoring for medical care at the hands of the trained profession, but which they cannot secure because they cannot pay the price, is not justified in the light of the millions diverted to the coffers of patent medicine concerns, cults, quacks, and charlatans. The continuous battle by the medical profession for legislation intended to protect the people from their own folly and ignorance only emphasizes the point. Intelligent health consciousness is the foundation needed, more than anything else, upon which to build a sound program of public and individual health. Health consciousness will be stimulated in direct proportion to the degree with which this ignorance is dissipated. Herein lies one of the most fertile fields for our public health departments, local, state, or national.

May I, at this juncture, pay tribute to the Department of Health in our own state? Realizing that the most effective agent for individual health education is the family physician, it has instituted a state-wide program of health education with the full co-operative support of the State Medical Society and the local county societies. Through them the family physician's direct contact with the patient is utilized to make the department's health program one of real health education.

The family physician cannot be eliminated from any program of public health. He must be an integral part to make such programs fully effective. Every move to replace him by impersonal governmental agencies will eventually tend to defeat real better health objectives. The first functions of public health agencies should be to increase the efficiency of the family physician by utilizing to the fullest the intimate relationship he holds to the individual and the home. He should be the local agent, the detail man, if you please, for health departments. Co-operative teamwork should be the watchword instead of armed neutrality or open antagonism of one toward the other.

The personal physician, however, is not as universally sensitized to this broader scope of his responsibilities as he should be. To a considerable extent he needs to be awakened to fuller realization of his value to society as the educator of his people, in a clearer appreciation of health. Instead, therefore, of a blanket condemnation of the medical profession for its shortcomings, it should be further educated so that it will fully assume this responsibility. Instead of using this deficiency as an excuse to place health matters in the hands of those whose concept of personal health and disease is too limited, the deficiency should be corrected. Organized medicine is aware of this necessity and is taking intensive steps all over the country to correct it. The road to good health must be laid and maintained by the physician, not by so-called social economists and well-meaning but dreaming ideologists.

Public health as a special field in medicine is the outgrowth of the need in modern society to make more effective the functions of the personal physician. Neither can be eliminated nor can either be fully effective without the other.

The various commissions of our State Medical Society are engaged in programs of far-reaching influence in dispelling ignorance and replacing it with a health consciousness that recognizes the family physician as the expert and not the suave, compelling voice of a radio announcer repeating the lines prepared for him by the advertising bureau of some dispenser of yeast, Glauber's salt, or baking soda.

A simple recital of the names of these commissions in our State Medical Society is sufficient to suggest the broad activities modern medical organization is engaged in. We have Commissions on Maternal Welfare, Diabetes, Cancer, Pneumonia, Acute Appendicitis Mortality, a Committee on Tuberculosis, and a Committee on Industrial Health. The latter will in all probability eventually become a commission. The State Society recognizes the importance of this field of medicine, both from the standpoint of health education as well as industrial economics. It is preparing to co-operate fully with all proper agencies in carrying forward this relatively new activity.

No mass advances along the front of individual health can be made until the individual himself becomes fully conscious of the physiologic, biologic, chemical, and psychologic complexity of the human mechanism, both in health and disease. The complexities themselves need not be understood, but there must be a full realization that health problems must, of necessity, be left to those who by training and experi-

ence alone are qualified, that is, the medical profession—the Doctors of Medicine—not politicians, social workers, or Doctors of Philosophy.

Greater emphasis is placed today on preventive medicine than ever before. Scientific achievements have made great strides possible. Medicine has called to its aid many allied sciences and some that were formerly not allied. It recognizes that medical progress and the health of the people can be forwarded only by the aid of countless auxiliary forces, be they scientific or social, but it contends that if progress is to be continuous and augmented, medicine must be the directing hand in all health matters. It further holds that the whole question of health, whether public or personalized, has its center or foundation in the individual relationship of patient and physician. This means that no matter what readjustments are necessary, in order to accelerate health progress they must have the effect of strengthening the basic foundation of the structure and that is the patient-physician unit.

This is not a new conception but is as old as Hippocrates. It seems, however, to be lost sight of in the tide of agitation for social change the world is experiencing today. Proposals for politically directed and politically controlled systems of compulsory sickness insurance take no account of these basic principles. Furthermore, they are a part of a social scheme whose objective is totalitarianism.

The social upheaval which began by way of panaceas for economic ills and ended in Communism, Naziism, and Fascism had its beginnings 58 years ago under Bismarck, who said:

“A beginning must be made with the task of reconciling the laboring classes with the state. Whoever has a pension assured to him in his old age is much more contented and easy to manage than the man who has no such prospect. Compare a servant in a private house and one attached to a government office or to the court; the latter, because he looks forward to a pension, will put up with a great deal more.”

This from Prince Bismarck, the father of social insurance. What a price Europe is paying for it today!

Compulsory sickness insurance and social security insurance were presented to the German people for political reasons. The effect on the morale and independence of the people of Germany, Russia, and Italy is now evident. When so-called social insurance went in, the people

became vassals of the state. Today they are cannon fodder for the state.

We are asked now to accept these very panaceas. If we do, have we any logical reason to anticipate a fate other than that which has befallen these countries?

These Utopian dreams of economic security in deed and in fact have resulted in social and economic demoralization. Individual initiative, free enterprise, sanctity of the home, liberty of action, and true democracy are sacrificed on the altar of state socialism, totalitarianism, regimentation, or collectivism.

Is there any more certain foundation for a totalitarian government than regimented homes? That is what socialized medicine, compulsory sickness insurance, or political medicine means. Democratic America has been asked to accept this.

This fifth column has been operating for some years preparing the soil for the final onslaught. Were the opposition of the medical profession to socialized medicine based solely upon reasons of selfishness and blind aversion to change, the situation would not be serious. There are, however, more basic reasons than these; and larger, more fundamental principles are involved that strike at the very heart of our American civilization.

Social insurance is the racket by which the state collects vast sums from the people and doles out some of it in mere pittance, builds up large bureaucracies, and reduces the masses to subservient vassals of the politicians in the name of social progress. Its birth is political, its life is slavery to the state, and its death is totalitarianism and dictatorship.

That is the history of Germany, Russia, and Italy. That will be our history if we fall victims to the siren song of social security sung to the tune of taxation and overlordship of the state.

Abroad, the debacle started with socialized medicine—compulsory health insurance. Here it has been the determined stand of an organized medical profession that prevented medicine from being the first step toward national regimentation.

When we view the conditions in war-torn Europe today, we wonder that there is anyone left on this side so deluded as to want to import any European ideas or ideology.

We in the United States have a priceless heritage of free enterprise and human liberty that no one can take from us, but which can be lost if we fail to wake up to ominous signs of the times.

The medical profession must be supported in its stand against these forces. In doing so we are defending our priceless heritage of liberty and democracy.

Our fight, then, is not ours alone but the fight of every red-blooded American who believes in our system of government.

It is only too true that the medical profession of America has for years carried a huge burden in the care of the economically unfortunate. This burden can and should be lightened by judicious subsidies, but the profession will continue to carry this burden rather than surrender its independence. Our experience to date has been that woefully inadequate funds have been appropriated by the state for the medical care of the indigent. Nevertheless, they are still being taken care of by the profession and that adequately, in spite of the fact that only so-called minimal care is called for by the state.

At the present time in Pennsylvania, in the care of the indigent, professional independence and untrammelled patient-physician relationship is being maintained, but judging by historic evidence the time may come when political and economic considerations may prevail to the detriment of the service now rendered. Nevertheless, as long as the medical profession continues to render more service than it is being paid for, it should retain the right to say how this service shall be rendered. In fact, we wonder whether it might not be better that the balance of credit remain materially on the side of the medical profession, for then the state is faced with the alternative of accepting the conditions laid down by the profession or of assuming the responsi-

bility for an inferior medical service to meet political or economic exigencies. Under the latter contingency, it is only fair that the people should know on whom to place the responsibility.

If, with the tax burden already more than 25 per cent of our income, and the state unable to pay for adequate medical care for the indigent, what are the prospects under a system of political control of all medical care? What, then, does organized medicine propose for the future?

In the first place, it has no plan for politically controlled personal medical service. It calls for judicious expansion of those activities which will educate the people to a better understanding of health problems and to a fuller realization that the master in the House of Health must be the trained physician. It calls for ever-increasing activities in postgraduate medical instruction to keep the physician abreast of medical progress. It is prepared to co-operate to the fullest with all governmental health agencies. It recognizes the incalculable value of our American voluntary health and welfare agencies and urges their preservation. It, however, calls for a sharp differentiation between the proper functions of these governmental and voluntary agencies on the one hand and the personalized practice of medicine on the other. It is prepared to co-operate in the utilization of any voluntary system of payment for medical services that will insure free enterprise for the profession and the best quality of medical service for the patient when he needs it and wants it. Finally, it accepts unequivocally its professional responsibility for the health of the people but demands the right to be master in its own house.

PREDICTS WARTIME SCARCITY IN PHYSICAL THERAPY FIELD

In case of war there would be a shortage of at least 250 physicians qualified to take charge of physical therapy departments in the number of general hospitals it is estimated would be required for 6 field armies, and an even greater shortage of technicians in this field would exist, John S. Coulter, M.D., Chicago, declares in the Medical Preparedness Section of *The Journal of the American Medical Association* for Sept. 7.

Dr. Coulter estimates that 300 general hospitals of 1000 beds each would be necessary "in a war of such severity as is occurring in Europe" and that in each such hospital a medical director and at least 6 technicians would be required for the physical therapy department. At present the number of qualified physicians specializing in this field appears to be less than 50, as the Society of Physical Therapy Physicians has a membership of only 38 and a waiting list of 10.

Discussing ways of overcoming the shortage in this field, Dr. Coulter says: "The Northwestern University Medical School for the past 10 years has been offering to qualified graduate physicians a month's course in physical therapy. It is felt that this course serves as a substantial foundation for the intelligent application of physical therapy. A physician with a year's internship and at least a year's approved residency can in this month's course secure a groundwork in physical therapy that will enable him in the event of an emergency to take charge of the physical therapy department of an army general hospital. It would seem desirable that some provision be made to train medical officers in such short courses as the need arises. At least 10 medical schools and the Mayo Clinic have facilities to give such courses as described."

Regarding physical therapy technicians, Dr. Coulter points out that a course of 40 hours a week for 20 weeks could be given without lowering the educational standards.

A Clinical Report of an Epidemic of Acute Infectious Jaundice

BLAIR G. LEARN, M.D.

Blandburg, Pa.

THE term acute infectious jaundice is used to designate a clinical syndrome characterized by an acute onset with fever, epigastric pain, nausea, or nausea and vomiting, associated with jaundice, dehydration, and loss of weight. It is differentiated from all other forms of jaundice by the fact that it occurs in epidemics and runs a self-limited course of 10 days to 2 weeks. Spirochetes are found by darkfield examination of the blood and in the macerated kidney substance of inoculated guinea pigs. Complications are rare and the mortality is very low. The data for this study was obtained from 62 cases in my private practice. Other names used to describe this disease are Weil's disease, acute infectious duodenitis, Fiedler's disease, and acute febrile jaundice.

History

"The first record of the appearance of infectious jaundice in the United States was in 1812 in the State of Virginia."¹ During the next 74 years there were 11 reported epidemics of this disease. By 1922 it had been reported from nearly every state in the Union. Since that time several papers have been written in which the *Leptospira icterohaemorrhagica* has been associated as the causative organism, "which organism is suggested as living in symbiosis with the rat and excreted in its urine."^{1, 2, 3}

Bacteriology

The organism found in the specimens of blood and urine examined was a spirochete resembling the *Leptospira icterohaemorrhagica*. The specimens in most cases were taken during the first 10 days of illness. In 2 cases in which there was a recurrence of the jaundice the darkfield examination was positive. In one of these the spirochetes were recovered from the macerated kidney substance of an inoculated guinea pig. The laboratory work in these cases was done by the clinical laboratory of the Department of Health at Philadelphia. The darkfield examina-

tion of the blood in several of the cases showed spirochetes present, but not sufficiently defined to make a definite diagnosis of *Leptospira icterohaemorrhagica*. Guinea pigs inoculated with this blood showed spirochetes in the macerated kidney substance resembling *Leptospira icterohaemorrhagica*. Other pigs were examined and blood taken from the heart was negative for this organism. Sufficient tests have been done to determine that this infection is caused by a spirochete which resembles the *Leptospira*. In an epidemic which ran concurrently with this one, specimens of blood examined showed a positive agglutination test for the *Leptospira*, but no positive findings by darkfield examination in the blood and urine.

Cause of the Jaundice

The cause is essentially obstructive in nature, but is not complete in many of the cases, as determined by the fact that some of the patients have only a light lemon tint to the skin and sclera. Experimental work tends to show that this obstruction is due to the viscosity of the bile and the low pressure under which it is excreted, permitting it to be reabsorbed; when the bile loses its viscid character, the flow is re-established and the jaundice disappears.

Clinical Report

The cases in this series began to appear in this locality in September, 1937, and continued to March, 1938; no more cases were observed until September, 1938, when this epidemic again became prevalent and lasted until March, 1939. Since that time only 3 cases have been observed. During the period of this report from September, 1937, to March, 1939, there were 62 cases studied. Most of these cases were mild and ambulatory, the greatest number occurring in children 6 to 8 years old. The youngest patient was age 3 and the oldest age 47. The severity of the illness usually increased with the age of the patient. The incubation period was 2 weeks

in most of the cases. There were as many as 6 cases in one family. Not all children exposed to this infection were ill.

The clinical diagnosis was based on the following subjective and objective findings: epigastric pain, nausea, or nausea and vomiting, fever, dizziness, jaundice, clay-colored stools, and bile in the urine. In detecting jaundice of the skin, sclera, or the hard palate, proper lighting is essential. Two per cent of the cases had a recurrence of their illness; the symptoms and jaundice would disappear and in 4 days to 3 weeks the symptoms recurred and lasted from 7 days to 2 months. Jaundice as such was not observed by the patient or the parents in more than 4 per cent of the cases. The temperature range was from 99.5 to 105 F.

Clinical evidence shows that this disease is transmitted from person to person and that most adults have an immunity. There were few complications and only one death in this epidemic. Loss of weight was marked in the older patients due to the severe prostration, one patient losing 20 pounds. One-fourth of the patients had epistaxis. One patient had prolonged menses for 2 weeks, and since this illness her menstrual period has been prolonged to 6 weeks; no other hemorrhagic diathesis was observed. All the patients had tenderness in the right upper quadrant of the abdomen. The liver and spleen were not palpable in any of these cases.

The symptoms and signs observed were as follows: Epigastric pain, nausea, fever, and tenderness in upper right quadrant in 62 cases, vomiting in 47 cases, bile in the urine in 36 cases, clay-colored stools in 18 cases, and epistaxis in 12 cases. A few case reports follow:

Case Reports

CASE 1.—L. M., male, age 7, was first seen Sept. 19, 1937. He complained of pain in the epigastrium with nausea and anorexia. Examination showed the temperature, pulse, and respirations all increased, skin lemon yellow, sclera showing jaundice, the urine a dark amber color, and tenderness in the upper right quadrant. This patient was discharged Sept. 28 when the jaundice had cleared and the urine was bile-free.

This case is reported because 47 of the cases were of this mild type.

CASE 2.—M. R., female, age 12, came under observation Nov. 7, 1938. The chief complaints were nausea and vomiting and pain in the epigastrium. The onset of the symptoms and jaundice occurred Oct. 28, 1938. In a week's time the patient had recovered and returned to school; then the symptoms recurred. Upon examination the skin, sclera, and hard palate showed jaundice. The temperature, pulse, and respirations were increased. There were tenderness and rigidity in the upper right quadrant of the abdomen. For the next 8 days the patient gradually improved and was discharged Nov. 18, 1938.

This case is presented to show a recurrence of the disease.

CASE 3.—E. L., female, age 14, came under observation Dec. 27, 1938. The chief complaints were the same as in the preceding cases. The onset of the symptoms occurred Dec. 24, 1938, or 2 weeks after a brother had been ill with jaundice. The physical findings were the same as those of the preceding cases. From Dec. 28 until Jan. 13, 1939, when she was discharged, the patient was quite ill, having clay-colored stools, epistaxis, and prolonged menstrual flow.

This case is included to illustrate the incubation period of 2 weeks and the hemorrhagic nature of the disease.

CASE 4.—L. C., male, age 47, was first seen Mar. 27, 1939. His chief complaints were the same as the preceding patients. Examination showed the throat congested, jaundice of the sclera and skin, elevation of the temperature, pulse, and respirations, with tenderness and rigidity of the upper right quadrant of the abdomen. From Mar. 28, 1939, to Apr. 7 the patient gradually improved and was discharged.

On Apr. 8 the symptoms returned with beginning chills, fever, and sweats, when the patient was hospitalized. *Leptospira icterohaemorrhagiae* were found in the urine. The patient was discharged June 1. The blood and urine at this time were negative for *Leptospira*. The patient lost 20 pounds in weight. The essential findings during hospitalization were continuation of the chills, fever, and sweats. An exploratory operation was negative. Blood examinations showed an icterus index of 5 with increased white blood cells and a decrease in red cells. The Kahn and Widal tests were negative. *Bacillus abortus* and *Leptospira* were not found. Roentgen ray showed the chest to be clear, but the liver area was enlarged. A retrograde pyelogram showed the dye extending beyond normal limits, over the first lumbar vertebra. The stools were negative. Treatment consisted of blood transfusions.

The patient remained well until Aug. 14, 1939, when the symptoms recurred. Darkfield examination of the blood showed *Leptospira* present, and the organism was also found in macerated kidney substance of an inoculated guinea pig. The patient was again hospitalized. He became progressively worse and died Sept. 18, 1939. Gross findings at necropsy were abscess of the right lobe of the liver, with multiple abscesses of both lungs.

This case is included to show the severity of this infection in older patients.

Diagnosis

When 2 or more cases of jaundice are seen in the same community at or near the same time, or occurring in the same family, the clinician should be on the alert for this form of infectious jaundice. Isolated cases will be diagnosed by finding *Leptospira* by darkfield examination of the blood and by studying their morphology from the macerated kidney substance of inoculated guinea pigs.

Treatment

At the present time there is no specific treatment or prophylaxis against this infection. Neo-

salvarsan or podophyllin had no effect in this disease. The symptomatic treatment used in the mild cases was carbohydrates in the form of candy and Coca-Cola. Bile salts were given to aid fat digestion. Bismuth subcarbonate was used to allay the distress of nausea and vomiting.

Comments

The evidence accumulated in medical literature points to the *Leptospira* as the causative organism in this disease. It was isolated in a sufficient number of these cases to determine that it was the cause of this epidemic. The fact that very few adults were ill with this infection shows that they had developed an immunity. This disease should be rated with measles, mumps, and scarlet fever in its morbidity rating; there will be as many persons ill with this disease as in an epidemic of the aforementioned

diseases. The seasonal incidence of this epidemic was the fall and winter months.

Summary

This report is based on 62 cases occurring during the fall and winter months of 1937 to 1939. The incubation period was 2 weeks in most cases. A spirochete resembling the *Leptospira icterohaemorrhagica* was isolated from macerated kidney substance of inoculated guinea pigs. The older the patient the more severe were the symptoms. Three patients had relapses. Sixty per cent of the cases were mild and were bedfast only a few days.

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MORTALITY DATA OF PENNSYLVANIA PHYSICIANS

The following is a list of 20 physicians who died in Pennsylvania during the months of April and May, 1940:

<i>Name</i>	<i>Address</i>	<i>Age</i>	<i>Date of Death</i>	<i>Cause of Death</i>
Charles A. Arnold	Pittsburgh	73	Apr. 6	Myocardial heart disease
Byron B. Bobb	Harrisburg	41	" 7	Acute intestinal obstruction
Henry C. Bowman	Schuylkill Haven	85	" 19	Acute coronary occlusion
Herbert Cooper	Upper Darby	68	" 10	Diabetes
James R. Davis	Pittsburgh	54	" 10	Carcinoma of bladder
George S. Frank	Millheim	80	" 13	Uremic coma
William H. Good	Philadelphia	63	" 21	Gunshot wound of chest (suicide)
Edward M. Gramm	Philadelphia	80	" 1	Hypertension
Smith F. Hogsett	Pittsburgh	57	" 5	Coronary occlusion
Charles A. Johnston	Harford	86	" 24	Arteriosclerosis
Samuel P. Kerns	Philadelphia	77	" 7	Coronary thrombosis
Samuel V. King	Sharon	63	" 3	Arteriosclerosis
Jacob L. Manasses	Philadelphia	65	" 6	Hypertensive vascular disease
Joseph S. Miller	West Chester	45	" 1	Chronic myelogenous anemia
Clarence W. Prevost	West Pittston	74	" 30	Diabetes
Harold N. Prothero	Jeannette	61	" 24	Coronary thrombosis
Clifford W. Skinner	Meadville	47	" 22	Cerebral embolism
Maximilian E. Smukler	Philadelphia	52	" 23	Streptococcic endocarditis
Ralph Wimenitz	Philadelphia	69	" 2	Coronary occlusion
Harry G. Wright	New Holland	58	" 17	Coronary occlusion
Charles H. Bair	Pittsburgh	64	May 20	Chronic nephritis
Benjamin H. Bainbridge	Philadelphia	71	" 29	Arteriosclerosis
Henry E. Bittner	Hazleton	70	" 25	Arteriosclerosis
William H. Emery	West Chester	71	" 3	Myocardial degeneration
John W. Frankhouser	West Reading	75	" 8	Paget's disease
Walter S. Freeman	Philadelphia	80	" 15	Coronary thrombosis
Samuel J. Heindel	Douglass	76	" 3	Arteriosclerosis
Randal E. Hoyt	Cumberland	56	" 14	Hypertension
John McQuirk Leonard	Blairsville	61	" 21	Arteriosclerosis
William LeRoy Marks	Pittsburgh	56	" 22	Coronary thrombosis
Patrick F. Moylan	Scranton	76	" 30	Carcinoma of stomach
Robert M. McCreight	Philadelphia	78	" 16	Myocardial degeneration
August F. G. Paetzel	Coolspring	68	" 31	Chronic myocarditis
William A. Raiman	Philadelphia	62	" 18	Diverticulosis
Bert Lee Stollar	Fayette City	56	" 5	Acute endocarditis
Horace C. Stroup	Seward	43	" 5	Carcinoma of rectum
Arthur D. Van Dyke	Scranton	80	" 4	Arteriosclerosis
Allen A. Van Slyke	Conewango	83	" 30	Senility

Spontaneous Expulsion of a Submucous Lipoma of the Cecum

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Emmaus, Pa.

NOTHING is so humiliating and disconcerting and, at the same time, so stimulating to the clinician as to make an apparently simple clear-cut diagnosis, only to discover a foreign condition not even considered.

In the case detailed below, the picture presented itself in a fashion so typical of an acute appendiceal abscess as to lull into complete repose any faint suspicions or doubts as to the accuracy of the diagnosis. For this reason it is thought worth while to add one more case to a rather rare group of benign intestinal tumors, and, in so doing, recall to the practitioner the ever-present necessity for thoroughness of examination and extreme care in detailed history-taking.

Case Report

F. K., age 50, a white man, moderately well developed and nourished, was first seen Aug. 19, 1939. He was married, and a silk weaver by trade. His past family and medical history were essentially negative except for constipation and occasional mild attacks of cramp-like pain in the lower abdomen. There was no relation to quality or quantity of food, and there had never been emesis, diarrhea, or bloody stools. There was no loss of weight or strength. A cathartic or enema always relieved the attacks.

On Aug. 15, 1939, the cramp-like pains recurred in the right lower quadrant of his abdomen. For the first time, emesis and diarrhea followed, and enemas failed to relieve the condition. Medical aid was finally sought the night of Aug. 19, 1939.

Physical examination revealed a restless, pale, profusely perspiring patient apparently in shock and great pain. The temperature was 101.4, pulse 120, respirations 28. He had vomited freely for a 2-hour period. Results of the general examination were negative except for a large tender mass in the right lower quadrant. There was slight rigidity in the same area. Rectal examination showed extreme tenderness near the mass. No hyperperistaltic waves were noted, and the abdomen was silent. William A. Hausman, M.D., chief surgeon at the Sacred Heart Hospital, Allentown, saw him immediately on admission, and concurred in the diagnosis of appendiceal abscess. Because of the patient's serious condition, operation was delayed and the Murphy treatment instituted.

Immediate leukocyte count was 14,000 with 86 per cent polymorphonuclears. The urine was negative ex-

cept for an occasional pus cell. The patient responded very well until the sixth day when severe lower right quadrant pains recurred followed by a large rectal hemorrhage. The blood count fell to 1,910,000 red blood cells, 14,000 white blood cells, and hemoglobin 37 per cent. Prothrombin time—no coagulation after one hour. The total blood protein was 5.60 grams. The Wassermann, Kahn, Hinton, and Kolmer tests were all negative. On gastric analysis, free hydrochloric acid was 50, and the total was 80. There was no occult blood. The sedimentation rate was 35 mm. in 60 minutes.

A gastro-intestinal study was done at the earliest opportunity. The report of Harold E. Hersh, M.D., roentgenologist, was: "Esophagus normal. Stomach normal in shape, size, and position. Functions were good. There was no evidence fluoroscopically of an ulcer or deformity. The duodenal cap was well visualized and appeared normal in outline. The first portion of the duodenum is narrowed on roentgenograms. Six hours—stomach is empty with the head of the meal to the splenic flexure. The cecum and terminal ileum show some deformity. Twenty-four hours—practically the entire colon is filled again; the cecum is poorly filled. Forty-eight hours—entire colon is filled, transverse colon rather large, with slight narrowing of the sigmoid. Cecum appears adherent to first portion of the transverse colon. Barium enema showed normal filling of the colon. Entire transverse colon large so that it overlapped the cecum and ascending colon. Conclusion—indefinite lesion involving cecum and ascending colon."

After 35 days in the hospital the patient's blood count was 5,040,000 red blood cells, 8000 white blood cells, and hemoglobin 85 per cent. The abdomen was soft with no tenderness, rigidity, or palpable mass. He refused operation and was released tentatively. One week after discharge from the hospital a second severe rectal hemorrhage occurred, and the patient passed a large clot. The tumor was rescued in the nick of time, and examined by Laurence C. Milstead, M.D., pathologist, who reported:

"Specimen is a pedunculated mass of rectal tissue. Pear-shaped, it measures 10 cm. from peduncle to end and is 6 cm. in thickness. It is covered by a thin, smooth, soft, brownish capsule. It is cut with only slight resistance. The body of the mass is composed of soft, red tissue with the appearance of voluntary muscle and separated off into bundles. It oozes sanguineous fluid when squeezed.

"Sections show a degenerated and deeply congested mass of adipose tissue containing wide zones of interstitial hemorrhage. The mass is covered by a narrow layer of intestinal mucosa. The epithelium is badly ulcerated because of vascular insufficiency.

"Diagnosis: Lipoma of intestinal tract."

Since this occurred the patient has been without complaints, and seems restored to normalcy.

Comment

When symptoms are of short duration as in this case, it is obvious that painstaking history-taking is extremely important. In appendicitis the attack begins with epigastric pain; here it began in the right lower quadrant. In appendicitis, the pain is usually a constant aching with the patient quiet; in this case the pain was intermittent and colicky, and the patient very restless. The distention and palpable mass are more apparent here than the rigidity and tenderness of appendicitis.

When symptoms are of long duration, carcinoma of the colon will usually be diagnosed. Malignancy is usually associated with progressive failure of general health, whereas in cases of lipoma good health usually prevails between attacks. Patients with carcinoma usually seek medical aid earlier than patients with benign lesions, although the age at which a lipoma lesion occurs is the same age at which cancer occurs. F. W. Rankin, J. A. Bargen, and L. A. Buie have estimated that the average duration of symptoms of carcinoma of the colon is 15 months, and in cancer of the rectum 11.7 months. J. D. Pemberton and C. J. McCormack, in an extremely detailed review of lipomas of the colon, note the average duration was 41.5 months. They also state that women between ages 40 and 60 are chiefly affected. The diagnosis of lipoma of the bowel seems improbable. The logical diagnosis is intestinal obstruction.

Figures on the incidence of these tumors of the colon producing symptoms seem to vary. M. W. Comfort found 11 tumors of the colon

and rectum in a series of 3924 consecutive necropsies. J. D. Kirshbaum, at the Cook County Hospital, found only 2 such tumors among 5734 consecutive necropsies. Pemberton and McCormack (1937), in a thorough review of the literature, found 116 cases of lipoma of the colon and rectum causing symptoms recorded since 1757. Of these 116 cases, there were only 11 cases in which the tumor passed spontaneously, thus apparently making this case the twelfth in 182 years. All patients recovered. The first recorded case, peculiarly enough, was by Bauer in 1757 when he described the course of a patient who after 7 weeks of pain and constipation passed a submucous lipoma of the colon spontaneously.

Comfort found the chief sites of origin of these tumors to be in the cecum, ascending colon, and sigmoid flexure, in the order named, and stated that they may undergo necrosis, cystic formation, calcification, and myxomatous or sarcomatous degeneration.

Summary

The literature reveals 116 cases of submucous lipoma of the colon and rectum with symptoms. In 11 cases spontaneous expulsion of the benign tumor occurred. A twelfth case in 182 years is detailed. The symptoms are those of intestinal obstruction, and the usual diagnosis made is acute appendicitis or carcinoma. Women between ages 40 and 60 are chiefly affected. Excluding adenomatous polyps, lipomas are the most common benign tumors of the gastrointestinal tract. According to Pemberton and McCormack of the Mayo Clinic, the treatment of these tumors with symptoms is surgical removal in one stage if possible, or by means of graded procedures.

Pennsylvania physicians, regardless of age, are expected to complete and return the A. M. A. Preparedness questionnaire at once. If mislaid, request another copy from the American Medical Association or The Medical Society of the State of Pennsylvania.

A questionnaire carefully completed and promptly returned may hold great advantage for the returnee.

What hope is there for any physician who does not return his questionnaire that he may not become a round peg in a square hole? See Preparedness letter, page 69.

The Hospital's Personality and Environment

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IN DEALING with medical problems it becomes increasingly evident that the patient's mental state requires treatment as well as his disease. And this is particularly true of chronic conditions. Rarely will medicine alone or even fastidious medical supervision attain satisfactory results. Discouragement and worry sometimes will distort the patient's outlook until the physical state becomes definitely aggravated and eventually the patient leaves the hospital as a medical failure; neuroses may ensue, thus leaving the patient with additional handicaps. Likewise, as groundwork is lost medically the hospital will suffer financially in the expenditures, without avail, for bed rest, diets, hydrotherapy, and drugs.

Other aspects are concerned with the mental state of the patient. With his return home or transfer to another institution often there is a tendency to misjudge the previous medical care, with the result that the hospital's long and respected history of good work, numerous cures, and grateful patients is forgotten. While the reflections often are exaggerated and totally unjustified, the repercussions may be the same as in the case of an unfavorable transaction with a neighborhood store or some other business organization.

There are also the factors of public health and hospital support. With patients suffering from chronic transmissible infections such as pulmonary tuberculosis there is grave danger for the family. Since hospitalization may be required for a long period, transferring the dissatisfied patient from one institution to another rarely will solve the problem. Such a procedure merely shifts the burden to another institution; eventually the patient returns home to infect others and thus magnify the problem twofold.

The increasing needs for financial aid are causing deep concern to the boards of managers and staffs of many hospitals; actually there is scarcely an institution in which the demands for free care have not increased. Thus, it becomes

more and more important on purely financial grounds to cure patients with the least possible cost, i. e., to reduce their periods of required hospitalization. Evidently hospitals can and should consider disease as a serious economic liability as well as a malady affecting the individual's health and that of his family. It is perhaps a fact also that hospitals no longer can expect financial support from benefactors unless disease and suffering are approached equally on an economic and medical basis.

Fortunately, as Henry A. Christian, M.D., has pointed out, "the practitioners of medicine are finding out more and more how important a part is played by the mind and its aberrations in organic disease. Also, they have been realizing increasingly that the fundamental principles of psychiatry are needed for the care of their patients." Hospital executives also are beginning to recognize the importance of the patient's attitude and that strict rules and regulations themselves often will fail to encourage co-operation so necessary in prolonged treatment. For example, the curt attitude of an attaché at the admission desk or a slight misunderstanding with a floor supervisor will at once inspire discontent and restlessness, and likewise the appearance of the outpatient clinics, the wards, and laboratories.

Picture the underprivileged patient from a humble though cozy home, who enters a hospital through the chilly atmosphere of its outpatient clinic, with hard, stiff benches, drab flooring, and curtainless, and with an austere personnel; and then after acceptance for admission he is referred to the ward which also appears cold and almost lifeless with its bleak white walls and high-legged forbidding beds. His anxious family is left behind; he is concerned deeply about the diagnosis and future treatment and how he will be able to meet hospital and doctor bills, hold his job, and at the same time provide for his family; there is the setup for a mild if not serious nervous breakdown. While at first there may be some interest in other patients' chatter about "cases," the physicians and nurses,

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the respite has no more than a surface influence; the worries continue.

It may seem incredible even to suggest that hospital surroundings will affect the attitude of the personnel, cause to develop an interesting and helpful hospital personality, or that the environment will reduce the social problems of the patients and improve the medical care, but perhaps there is something in the supposition. Thus, the experiences with color, paintings, and furnishings at the Department for Diseases of the Chest of the Jefferson Hospital may be of interest.

The thought that beautification of the hospital is important for the care of the patient was "brought home to roost" in 1925 with the outburst of a very unusual patient, a chap evidently with a mind of his own, who had been transferred from another hospital to the department. He said, "I hate hospitals, their ghost-white walls, and the glare of the shiny ceiling. Where I came from I have seen dozens of patients come and go—we were nearly crazy—and when the sun was bright we had to wear sun shades to soften the glare from our eyes. I hope I won't have to go through anything like that in this hospital." The same year an attractive high school girl was admitted from a sanatorium in another state. She had been accustomed to colorful attire and a cheerful home life which every girl of her age loves, but she had discovered none of these in the previous hospitals. She spoke of the antiseptic white beds, the drabness of the blankets, the colorless nightgowns tied by strings, the tiresome routine, and the "official attitude" of the personnel; it didn't seem "human." "I hope," she said, "that this hospital will not be the same." On close questioning, other patients had similar views and it became more and more evident that hospitals in general required "face lifting."

The patients' views and their experiences were discussed with the Woman's Committee of the Social Service Department, of which Mrs. Howard A. Davis is chairman. With their encouragement and the support of the Board of Trustees a definite step was taken to profit from the criticisms of other institutions. Since October, 1929, there has been a systematic effort to cultivate the personality and environment of the hospital.

The first step was in 1929 when the wards were painted different colors; the patients as well as the staff were encouraged to make suggestions. The effects were so striking that it was decided to continue the painting as an experiment during the next 6 years; various colors

and combinations were tried. The colors of the men's ward have been painted in turn blue, green, cream, buff, and gray, while the women's wards were painted different shades of blue, gray, orchid, yellow, peach, and pink. There also have been combinations of pastel shades and deep tones on the lower 3 feet of the walls with ivory above, light cream on the ceiling, and decorative lines between the colors. Likewise the furniture has been painted appropriately in yellow, red, and pastel shades, usually in darker colors than the walls. Certain patients were transferred from one ward to another so as to note their reactions. There were individual differences of opinion but in general it was decided that gray was depressing, blue irritating, red attractive at first and then tiresome and irritating; the yellow walls grew tiresome but when properly harmonized this color as used on some of the furniture was most acceptable. The buff and cream colored wards were not popular but always were preferred to white. Peach and pink were the most popular shades, especially the former, as evidenced by the happiness of the patients and their desire to adorn themselves. One could pass from one ward to another and easily observe the different reactions. Most men preferred light green walls and pastel shades for the furniture.

Although certain colors and combinations created a restful and cheerful atmosphere, it was evident that something was needed to arouse interest among the patients, and accordingly the Woman's Committee in co-operation with the Art Alliance of Philadelphia and friends of the hospital obtained a number of subscriptions from the Circulating Picture Club. These subscriptions provided 60 paintings by noted artists and included colorful landscapes, dwellings, floral pictures, ocean and river scenes, figures, and modernistic works. The men were attracted to out-of-door scenes, particularly of water and sail boats. One of the striking reactions of the men was the spirit of wanderlust created by some of the pictures. One could overhear their conversations about tramping through the country or sailing on the high seas; some spent hours discussing a pleasing picture; and the popular pictures were given up reluctantly. The women almost always preferred floral scenes and landscapes; but they were more easily pleased than the men, possibly because of their diversions of sewing and knitting. Opinion was divided on dwellings and people; sometimes they caused homesickness, especially among the older women. The figures often provoked ridicule, especially when they had been treated with a modern touch.

There was a country scene with a subject carrying a large earthen jar balanced upon her head; the patients drew widely from their imaginations thinking of the possibilities of catastrophe that might befall this poor soul; the picture was removed.

With the exception of the beds, bedside tables, and certain essential medical equipment, there is no furniture on the wards that is of the typical hospital variety. With the interest and advice of Mrs. Dobson Altemus, president of the Woman's Board, similar changes have been made on the roof garden and the out-door clinic. For example, the flooring of the clinic, now called the "reception room," is aquamarine with base borders of darker blue; there are gaily colored leather chairs, settees, folding leaf tables, ladder-back chairs, floor and table lamps, and attractive pictures; even the scales, bulletin boards, and the traditional nurses' "office lamp" have been removed. Likewise the roof garden, which formerly was a flat deck with a railing, has been transformed with a light blue canopy at one end with a curtain that may be lowered during inclement weather, and numerous deck chairs and other comfortable seats with companion tables, flower boxes, urns, bird baths, and fish aquariums. During the summertime the roof is used for entertainments and social gatherings for the patients.

While the patient's reactions on his first visit to the clinic or his entry to the ward have been interesting, the response of the hospital personnel was even more illuminating. At first there was some trepidation because of fear that the color of the flooring would not last beyond the first day, that the furniture would be soiled and ruined during the first week. But no such destruction has occurred; as a matter of fact the wear and tear are considerably less than would be expected in the most exclusive hotel lobbies. The patients are respectful and careful of the

furnishings and take a personal interest and delight in each new addition. It seems that the dress of the outpatients has been affected; rarely does one see unkempt attire. A very noticeable change has been their relaxation and pleasure from sitting in the room even in the face of serious problems. In watching their expressions one cannot help but feel that the hospital with its physicians is regarded as a place to go in time of need rather than a place of last resort. Whereas formerly there were sometimes extreme difficulties in arranging for hospitalization because the patients feared their disease and the association with others, now the advice is more easily given and received. While the addition of thoracic surgery has been the most important step recently in the growth of the department, there seems to be no question but that the attitude of patients as passed from one to another has been an invaluable influence.

It should be re-emphasized that there is no basis for considering that colored paintings and surroundings have any specific effect upon the healing of chronic disease, but it is evident that the mind exerts an influence. Colors which favor relaxation, paintings that relieve monotony, furniture that is comfortable and attractive are means by which the mind may be treated. Undoubtedly women's organizations have a great and fruitful opportunity to assist physicians and hospital administrators in the conquest of disease. In taking up this activity the women would make a very worth-while contribution, not with funds alone but through artistic taste and advice. Thus, while the attractive surroundings will assist in treatment, they will also give satisfaction to the relatives and friends of the patients in conveying the thought that the hospital has considered the patient's happiness as well as his disease. It is the same old story all over again of a pretty hat, a fur coat, and a permanent wave curing headaches and many woes.



The Rôle of Infection in Kidney Disease

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SINCE the physiologic functions of the kidneys as the main filters of the body peculiarly and particularly expose them to the injuries of infection from bacteria and their toxins in the blood, it appears that the rôle of both acute and chronic infections in the production of their diseases should command wider and more careful clinical consideration than is commonly the case.

Of course, this does not apply to such infections of the kidneys in which organisms are readily found in the urine or in the tissues, like the so-called pyelitis of infancy and pregnancy, the forms of focal and diffuse suppurative nephritis, pyonephrosis, tuberculous nephritis, and the like, as it does in the etiology of both acute and chronic glomerulonephritis, benign hemorrhagic nephritis, acute interstitial nephritis, and amyloid disease. In these diseases direct bacteriologic proof of infection may be lacking, but clinical experience indicates that infection is the chief or at least a very important secondary factor in their etiology with some suspicion that chronic streptococcal infection may possibly play some rôle in the production of essential or idiopathic hypertension so closely associated with nephrosclerosis.

Mechanism of Infection

In the first place it appears to be quite definitely proven experimentally that infections of the kidneys are hematogenous in origin and that ascending infections by way of the ureters from the lower urinary tract are of exceptional occurrence. Since bacteremia may occur in chronic focal infections of the teeth, tonsils, and other parts, it is not surprising that organisms may be found in the urine without evidences of infection of the kidneys as may likewise occur in such acute diseases as typhoid fever and pneumococcal pneumonia with associated bacteremias. But while normal kidneys may escape infection under these circumstances, it is apt to be quite different if some condition creates a locus minoris resistentiae and especially if drainage is interfered with as by calculi, strictures of the ureters or

pressure upon them by tumors, the pregnant uterus and the like, in which case even organisms of low virulence may produce infection.

The important point is the fact that the physiologic functions of the kidneys particularly expose them to infection by way of the blood; but if they are normal and the bacteremia is due to an organism of low virulence, they usually escape infection. If the bacteremia is due to an organism of enhanced virulence and especially in the case of the pyogenic cocci, infection may occur, and if all the organs of the body are exposed to infection during septicemia, they are most likely to become involved. Indeed, the very structure of the glomerular tufts is particularly favorable to bacterial embolism.

Furthermore, and very importantly, the physiologic functions of the kidneys particularly expose them to the injurious effects of bacterial toxins in the blood, so that in the absence of bacteremia and septicemia they are still peculiarly exposed to the effects of infections elsewhere in the body, in which case toxic bacterial products alone may produce cloudy swelling of the epithelium to say nothing of glomerular nephritis and amyloid disease.

Pyelitis and Pyelonephritis

In the first group where the rôle of infection has been proven, so-called "pyelitis" takes front rank from the standpoint of frequency, not only in infants and older children but in adults as well and especially in pregnancy. The term, however, is a misnomer and should be dropped in favor of a designation like "suppurative pyelonephritis," which it appears to be in the majority of instances since the essential lesion is not usually confined to the pelvis except possibly in the earliest stage of infections due to *B. coli*, but in truth is likely to be an interstitial suppurative nephritis. The colon bacillus is by all odds the most frequent infecting organism with a special affinity or predilection for the pelvis, but the disease may be caused by *B. proteus*, *B. influenzae*, and *B. pyocyaneus* and by some of the pyogenic cocci as the streptococci (especially *Streptococcus faecalis*), staphylococci, and pneu-

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mococci as well as in very rare instances by the gonococcus and *Actinomyces bovis*.

The mechanism of infection is apparently by way of the blood as experimental data indicates that the organism first gains access to the lymphatics and finally the blood from the site of initial infection. This is now commonly thought to be the case even when the primary infection is in the bladder or other parts of the lower urinary tract since ascending infection by way of the ureters is thought to be unlikely. Without doubt, however, obstruction to drainage by congenital or acquired strictures of the ureters, calculi, pressure by tumors, the pregnant uterus and the like are extremely important predisposing factors in the way of lowering local resistance and are always to be carefully looked for in all cases of pyelitis, especially in older children and adults. But apparently hematogenous infection with *B. Coli*, *B. proteus*, *B. pyocyaneus*, and *Streptococcus faecalis* may occur from the intestinal tract, especially in infants, and when infection is due to other streptococci, staphylococci, pneumococci, and *B. influenzae* the primary focus is most likely to be found in the tonsils, teeth, or nasal accessory sinuses.

As previously stated, infection however is seldom confined to the pelvis of the kidney even in those due to *B. coli* and *B. proteus*. These as well as staphylococci and streptococci, brought to the kidneys by the blood, may pass through the glomeruli without exciting inflammation only to reach the collecting tubules where they produce abscesses in the medulla as well as pyelitis and constitute pyelonephritis. From these locations the infection gradually spreads upwards in a radiating fashion along the lymphatics until wedge-shaped areas are formed which have their apex in the pelvis and their broad base at the cortex, by reason of which they are frequently called "septic infarcts" from their shape, without being real infarcts at all, but with the danger of breaking through the capsule and producing perinephritic abscesses.

Focal and Diffuse Suppurative Nephritis

During the course of septicemia, and especially with staphylococci and streptococci resulting in a flooding of the kidneys with innumerable bacterial emboli, some area of lowered resistance may favor infection with the production of clusters of small abscesses here and there constituting focal suppurative nephritis, which may coalesce into the formation of one or more large ones commonly designated as "carbuncle of the kidney." Such commonly occurs in the cortical areas from occlusion of the lumens of glomerular

capillaries since bacteria or their toxins are so likely to injure the capillary walls with the formation of occluding thrombi with the danger of an abscess on the surface opening into the perirenal tissues with the production of perinephritic abscess, to say nothing of the chances of this type of infection occurring by extension from neighboring parts. Indeed, in many instances the kidneys alone of all the organs of the body exposed to infection in septicemia are the only ones to develop these embolic or pyemic abscesses in addition to the primary focus of infection, and both are usually studded with almost innumerable small abscesses.

On the other hand, if the infecting organism is one of low virulence like *Streptococcus viridans*, abscesses are not likely to occur, but a special type of focal glomerular nephritis results with hematuria and possibly a mild pyuria as so commonly occurs during the course of subacute bacterial endocarditis with its associated bacteremia even though *Streptococcus viridans* itself may not be found in stained sections of the kidneys, probably because of their rapid lysis as suggested by Ophüls, although they have been demonstrated in stained sections by Volhard and Fahr in some instances of subacute bacterial endocarditis.

Pyonephrosis

In time, however, and especially in chronic infections, the pelvis and calices may become extremely dilated with thick creamy pus associated with great destruction of the parenchyma designated as pyonephrosis. This may arise gradually in the pelvis from obstruction with superadded suppurative infection or much more likely result from progressive destruction of the kidney in the course of advanced suppurative nephritis. The first part of the ureter shares in the dilatation, and when not occluded the cystoscope is likely to reveal the very characteristic worm-like ropes of pus uncoiling from the ureteral opening. Finally, the renal tissue may be reduced to only a functionless shell with the kidney only a bag of pus.

Tuberculosis

Here again tuberculous infection of the kidneys is always secondary to a primary focus elsewhere in the body, the bacilli being transported by the blood. Only minute lesions may develop which may, nevertheless, show bacilli in the urine. It is stated that tubercle bacilluria may occur without infection of the kidneys, but I have never personally seen a case with acid-fast bacilli in the urine that did not prove on

culture and guinea pig inoculation to be tubercle bacilli and with tuberculosis of the kidneys proven by subsequent events. The risks of mistaking *B. tuberculosis* for *B. smegmatis* in the urine are greatly overemphasized. Apparently minute lesions may heal by encapsulation with fibrous tissue just as they may elsewhere in the body if the patient is placed under the proper régime, so that there is no justification for the surgical removal of a kidney simply because tubercle bacilli are found in the urine. But, on the other hand, when the lesions have become of the chronic ulcerative type so commonly called "renal phthisis," it is extremely doubtful if healing ever occurs and surgical removal of the kidney is required providing the other one is able to carry on, although always likely to be likewise infected. The initial focus is usually at the apex of a papilla or at the base of a pyramid with progressive caseation and cavitation gradually destroying the medulla and finally the cortex, leaving the organ only a multilocular sac filled with thick tuberculous pus.

Diffuse Glomerular Nephritis

In the second group where the rôle of infection is based more upon clinical deductions than upon the actual finding of bacteria in the kidneys or urine, there is now a widespread consensus of opinion that acute glomerular nephritis is usually due to streptococcal infection secondary to primary infection of the upper respiratory tract with special reference to tonsillitis, pharyngitis, laryngitis, bronchitis, pneumonia, and scarlet fever as well as erysipelas, infected wounds, etc., with exposure to cold and wet as important predisposing factors. Indeed, there is scarcely an infectious disease in which at one time or another a nephritis has not been observed and, as stated by Volhard and Fahr, the cause of every nephritis is almost without exception due to bacterial infection and the different forms and stages have the same etiology. This is certainly true of acute nephritis, and there are many reasons for believing that subacute or chronic glomerulonephritis may follow the acute or begin insidiously as the result of chronic streptococcal infection secondary to chronic foci of dental origin or from chronic abscesses of the tonsils, as well as from chronic infection of the nasal accessory sinuses or elsewhere in the body. While any of the pyogenic cocci may be responsible, yet the streptococci are by all odds of most importance and indeed it may be stated that in general terms both acute and chronic glomerulonephritis are in truth streptococcal injuries of the kidneys.

The main differences of opinion are in relation to the mechanism of injury. Almost universally acute glomerular nephritis develops or at least is first detected one or more weeks after the initial or primary streptococcal infection. This suggests that the nephritis is due to streptococcal exotoxins or endotoxins rather than to the streptococci themselves in glomerular tufts just as diphtheria toxin is likewise known to cause severe glomerular nephritis. Ophüls has objected to this theory on the basis of why toxins could be so concentrated in the blood as to produce intense injury of the kidneys without involving other organs, but it must not be forgotten that this could readily enough be the case because the kidneys are the chief filters of the body and therefore peculiarly and particularly liable to injury from toxins because of their physiologic functions. Why all glomeruli are not similarly and simultaneously involved is, however, an unsolved riddle.

Others have expressed the opinion that glomerular nephritis is due to acquired allergic sensitization to streptococcal proteins or toxins and that this altered tissue reactivity is associated with both the rheumatic and nephritic states.

In all truth, therefore, the mechanism is unknown at the present time, but this does not detract from the belief that glomerular nephritis is due to streptococcal injury of the kidneys. In my opinion the toxins alone are responsible for the majority of cases with a tendency to recovery. I also believe that while chronic glomerular nephritis may be a progression from the acute, in most instances it is the result of prolonged injury by streptococcal toxins from repeated upper respiratory tract infections or from chronic foci of infection of dental, sinus, otitic, or other origin with the vascular lesions which predispose or initiate the nephritis due to the effects of wear and tear incidental to increasing age. This is a much more reasonable and likely explanation than the assumption that the progressive destruction of glomeruli results in a failure of the compensatory power of the uninvolved glomeruli resulting in a more marked azotemia with the production of toxic substances in the kidneys themselves, which act as inflammatory irritants in the production of chronic glomerular nephritis.

Benign Hemorrhagic Nephritis

Likewise in the etiology of benign hemorrhagic nephritis, which occupies a midway position between diffuse and focal glomerulonephritis characterized by hematuria with no edema or constitutional symptoms, infection appears to be

the prime factor since it almost always develops in connection with some infection of the upper respiratory tract with special reference to tonsillitis. At least when this is recovered, the hematuria usually disappears although it may be recurrent and especially so if infected tonsils are not removed. As this type of nephritis is so benign there is little opportunity for examination of the kidneys, but it is apparently a type of focal glomerulonephritis with the chances that many so-called instances of "essential hematuria" are of this character.

Acute Interstitial Nephritis

The same is apparently true of acute interstitial nephritis, which bears but little resemblance to any other type of nephritis and occurs principally as a complication of the acute infectious fevers with special reference to scarlet fever and diphtheria. Since it is difficult to recognize clinically because of no interference with renal function, with only a trace of albumin and a few erythrocytes in the urine, it seldom comes to necropsy with the result that it is commonly regarded as comparatively rare.

As shown by Councilman, it is characterized by extensive infiltration of the interstitial tissues between the tubules and glomeruli with masses of lymphocytes and a few plasma cells and polymorphonuclears. Although the actual presence of bacteria has not been demonstrated in sections, there can be no reasonable doubt of its relationship to primary acute infections with the assumption that the lesions are due to toxins. Why, however, they are able to reach the interstitial tissues without first damaging the glomeruli and tubules, through which they must surely pass, is still an unsolved puzzle.

Syphilitic Nephrosis and Nephritis

Even *Treponema pallidum* may infect the kidneys, although syphilitic nephritis is comparatively rare. The acute form generally occurs during the secondary stage with such marked edema and large amounts of albumin with doubly refractile lipoid bodies in casts that the clinical picture is one of nephrosis rather than a nephritis. It characteristically responds so promptly to antisymphilitic treatment and especially with arsphenamine that the therapeutic test is of great value. By the same token it rarely comes to necropsy, although *Treponema pallidum* has been demonstrated in the tubules in a few instances.

Curiously enough, much different lesions are seen in late syphilitics where they are primarily those of glomerulonephritis with secondary

changes in the tubules and interstitial tissues often associated with amyloid disease. These cases are likewise comparatively rare and seldom come to necropsy, but here again *Treponema* have been demonstrated. Rich has recently described lesions occurring principally in syphilitic negroes consisting in masses of lymphocytes in the interstitial tissues compressing the tubules in a very characteristic manner with the presence of cholesterol crystals in their lumens which can be seen on the cut surface with the naked eye as glistening flecks. These, too, are regarded as being possibly syphilitic in nature, although the *Treponema* have not yet been found in stained sections.

Amyloid Disease

In conclusion, brief reference may be made to amyloid disease of the kidneys in relation to the rôle of infection in the etiology of their diseases. It appears to be due to the effects of bacterial toxins because most commonly found in prolonged suppurative osteomyelitis and chronic tuberculosis, especially of the bones, with lesser frequency in syphilitic disease of bones associated with suppuration, ulcerating tumors, and the like. Furthermore, the disease has been produced experimentally by the repeated injection of staphylococci and other organisms as well as seen in horses subjected to repeated doses of diphtheria toxin in the production of antitoxin.

Summary

1. The physiologic functions of the kidneys as the main filters of the body particularly expose them to the injuries of infection from bacteria and their toxins in the blood.
2. Infections of the kidneys are regarded as hematogenous in origin, as ascending infection by way of the ureters from the lower urinary tract is apparently of exceptional occurrence.
3. In bacteremia with organisms of low virulence, normal kidneys may pass them through the urine without evidence of infection, although in subacute bacterial endocarditis *Streptococcus viridans* may lodge as emboli in the glomerular capillaries with the production of a special type of focal glomerulonephritis.
4. However, bacteremia may result in the production of infection if the resistance of the kidneys is lowered focally or diffusely and especially if drainage is obstructed by calculi, strictures of the ureters or pressure upon them by tumors, the pregnant uterus, and the like.
5. The rôle of infection in the production of kidney disease has been proven in pyelitis, pyelo-

nephritis, focal and diffuse suppurative nephritis, pyonephrosis, tuberculosis, and syphilis in which the infecting organisms have been found in the urine, the tissues, or both.

6. In acute and chronic glomerular nephritis, benign hemorrhagic nephritis, and acute interstitial nephritis the direct evidence of infection in their etiology on the basis of finding organisms

in the urine and tissues is lacking, but clinical evidence practically proves this relationship and especially in the case of bacterial toxins arising from acute or chronic primary infections elsewhere in the body. The same is true of amyloid disease so commonly associated with chronic suppuration and especially of the bones and joints.

REPRESENTATION OF MEDICINE ON DEFENSE COUNCIL URGED

"The maintenance of the food supply of the army and of the civilian population of the country in a time of emergency is as important a question as any of the questions which may confront our leaders in times of rapid action and stirring events," *The Journal of the American Medical Association* for Aug. 17 says in an editorial on "Food and the War."

"In World War I every foreign country early appointed a food commission to control this problem. Early in 1917 *The Journal* emphasized the advisability of appointing at once in this country an appropriate scientific body to advise on such questions. The experience of many a foreign country after the war showed how inefficient and futile had been some of the considerations given to these vital problems. In the Netherlands and Denmark people were deprived of important sources of vitamin A in order that butter might be sold to other countries. As a result, numerous children developed xerophthalmia and similar conditions. In Germany the effects of malnutrition resulting from the blockade became apparent later in increased cases of tuberculosis among those who were children at the time of the war. Today German writers are emphasizing the necessity for control of nutrition as basic to the winning of any conflict.

"It is no secret that problems of maintenance of the food supply are already serious in the warring countries. Indeed, Great Britain has begun a meatless ration for some of the days of the week, inclining largely toward a diet of eggs, milk, and vegetables. In a recent communication a German writer points out that the German diet must depend considerably during the forthcoming months on bread and potatoes and that it is necessary under such circumstances that the bread be a whole grain bread. Recently, British authorities have appointed a food commission to control food in the British army and among the British people, and already it has been decided to prepare a bread fortified with vitamin B₁ and calcium and to offer this for sale at a price similar to that for white bread. Moreover, British authorities have been urging co-operation of the Ministry of Food with the Ministries of Health and Agriculture to develop a national policy for control of the food supply.

"In World War I the Surgeon General of the army early in the mobilization of the drafted army took steps leading toward the formation of a division in his office charged with the duty of advising on all questions relating to the nutrition of the soldier. The importance of nutrition was recognized early, yet the Quartermaster General was opposed to the establishment of nutrition

officers in camp and it required 6 months before the Secretary of War authorized a food division for the army. The situation which confronts us today indicates the need for prompt action with regard to food and nutrition as a part of our current efforts toward preparedness. The National Research Council has a subcommittee on nutrition which is working on the problem of emergency and standard rations for the armed forces. The question of food for the soldier is still primarily in the division of the Quartermaster's office, but the Surgeon General of the army is equally concerned with the question of feeding the invalid soldier and with the feeding of troops for the prevention of illness. It is understood that 2 different divisions of the Advisory Commission on National Defense have set up subco-ordinators who will be concerned with the problems of food. One of these divisions is that concerned with agriculture, the other that concerned with the consumer. There does not seem to be any evidence that any effort has been made to co-ordinate in any manner the work of these different advisory bodies, nor is it apparent from the evidence thus far available that modern dietetics and leading authorities in the field have been called into service.

"The fundamental importance of good nutrition not only for those engaged in military services but for the population as a whole as the source of military units needs no argument in its behalf. What is needed is suitable co-ordination in Washington of all the various bodies that will be concerned with the nutrition of the nation. Such co-ordination can be brought about properly only by adequate representation of medicine, which includes scientific nutrition, in the Advisory Commission on National Defense."

ALIEN PHYSICIANS A PROBLEM

Refugee physicians should be encouraged to practice only in districts which need physicians, in the opinion of the National Committee for Resettlement of Foreign Physicians.

Immigration Service figures showed that 2700 physicians have come into the United States from central Europe "since the beginning of the Nazi persecutions," the committee reports.

"Their concentration in the cities is undesirable and they know it and are eager for the opportunity to practice their profession in communities which may find them acceptable."—Philadelphia *Evening Bulletin*, Feb. 14, 1940.

Subtotal Gastrectomy for Peptic Ulcer

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PROBABLY less than 15 per cent of peptic ulcers require surgical treatment. There are 5 complications of peptic ulcer that do require surgical intervention. These complications are perforation, obstruction, chronic penetrating ulcers that do not respond to medical treatment, ulcers producing repeated hemorrhages, and malignant disease.

I found in reviewing my private records that during the past 8 years I have personally operated upon 77 patients, in each one of whom there was demonstrated one or more of the above-mentioned complications. I am indebted to Hubley R. Owen, M.D., for the opportunity of operating on many of these patients while I was his assistant at the Philadelphia General Hospital and since I was appointed attending surgeon to the same institution.

Perforation

There were 17 acute perforations. One acute perforation was in gastric ulceration that was proven by biopsy to be a carcinoma. Sixteen acute perforations were due to peptic ulcer, 14 of which were in the duodenum (anterior wall) and 2 in the stomach near the pylorus. Nine perforated duodenal ulcers were treated by closure of the ulcer and posterior gastro-enterostomy. In closure of the ulcer in these cases the duodenum was obstructed and gastro-enterostomy was necessary. There were no deaths in the 9 cases. One patient was treated by excision of the pyloric ulcer and pyloroplasty and his convalescence and subsequent history were most satisfactory.

Seven acute perforations were treated by simple closure of the ulcer with re-enforcement by use of the gastrohepatic or gastrocolic omentum. There were 3 deaths in these 7 cases. In 2 patients who died, the perforation was estimated to have occurred 16 hours or longer before operation. One patient died of pneumonia 6 days postoperatively. One patient developed a new duodenal ulcer and perforated a second time within one year.

Malignant Disease

There were 14 cases of malignant disease in this series of 77 patients. One patient was previously mentioned as having an acute perforation of a gastric carcinomatous ulcer. Two total gastrectomies, 9 subtotal gastrectomies, and 3 gastro-enterostomies were done for malignant lesions. One patient after total gastrectomy lived for more than 7 months and gained 10 pounds in weight. This patient did not have marked anemia postoperatively. One patient died after total gastrectomy and 2 patients died after subtotal gastrectomy before leaving the hospital. Necropsies were done on these 3 cases. In the patient who died within 48 hours after total gastrectomy, the death was due to cerebral embolism. One patient died within one week from postoperative pneumonia following subtotal gastrectomy. The other patient died on the seventeenth postoperative day of leakage at the suture line of anastomosis between the remaining stomach and jejunum. In this case there was a large ulcerating carcinoma on the lesser curvature of the stomach extending almost to the esophagus, and I believe a total gastrectomy would have given this patient a good chance of recovery. These malignant lesions of the stomach must be excised well beyond the growth or the suture line will leak and produce peritonitis and death.

Two cases of linitis plastica were observed; one was successfully treated by total gastrectomy in a woman, age 65, and the other was treated by subtotal gastrectomy in a woman, age 29. The latter woman has been clinically well for 2 years, and she is the only patient of the 14 who is now alive. Not a single patient lived 5 years after operation, and most patients were dead within 2 years. The patients who survived operation were relieved of their digestive difficulties, their appetites were improved, and they gained in weight, but this improvement was usually measured in months or a very few years.

Two of the 3 cases treated by gastro-enterostomy were very interesting. One had a posterior gastrojejunostomy for a pyloric peptic ulcer 12 years previously. Exploratory laparotomy in this patient revealed a carcinoma of the pylorus with metastasis to the liver. The other patient

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had a pyloroplasty for peptic ulcer 30 years before he was again operated upon for pyloric obstruction. The second operation revealed a carcinoma of the pylorus at the site of the pyloroplasty. Had these patients had subtotal gastrectomies primarily, they certainly would not have died of carcinoma of the pyloric portion of the stomach. Either the peptic ulcers changed to carcinomas or carcinomas developed at or very near the site of the previous ulcerations.

Obstruction

Gastro-enterostomy is the operation of choice when there is obstruction associated with a healed peptic ulcer. This operation was done on 6 patients with relief of symptoms of obstruction and without recurrence of ulcer symptoms. Gastro-enterostomy should not be done if a peptic ulcer is not healed or if there are repeated hemorrhages from the ulcer. Active unhealed ulcers, even if they produce obstruction, should not be treated by gastro-enterostomy. Subtotal gastrectomy is indicated. Pyloroplasty was done on one patient with obstruction due to scar tissue from a healed ulcer, and this patient is free of symptoms after more than 3 years.

Chronic Penetrating Ulcers and Ulcers Producing Repeated Hemorrhages

Chronic ulcers, penetrating ulcers, and ulcers producing repeated hemorrhages should all be treated by subtotal gastrectomy.

Gastro-enterostomy was done by me on 12 cases of active peptic ulcer before 1937. Five of these patients developed marginal ulcer, 4 of whom had alarming repeated gastric hemorrhages. The other patients who were followed were not entirely relieved of their symptoms. Pyloroplasty was done on 6 patients, 2 of whom developed marginal ulcer, one is entirely relieved, 2 were not contacted, and one died in the hospital from pneumonia.

Marginal ulcer was treated by subtotal gastrectomy combined with resection of the intestine in 7 patients. There was one case of gastrojejunal fistula. All of these patients recovered.

Subtotal gastrectomy was performed 30 times for peptic ulcer. The prominent symptoms in this group of patients were alarming repeated hemorrhages without obstruction, repeated hemorrhages with obstruction, pain from penetrating ulcers, and chronic indurated ulcers that did not heal after years of medical treatment. There was one death in 30 cases of subtotal gastrectomy for ulcer. This death was due to leakage from the duodenal stump in a patient with a large,

indurated duodenal ulcer that extended to within less than one-half inch of the ampulla of Vater. The duodenal stump could not be thoroughly invaginated without obstructing the common bile duct. Dr. Lahey has told us how to prevent this accident. Be sure the pylorus is open, then transect the pyloric antrum, invaginate the distal end of the stomach leaving the ulcer in situ, and then do a high subtotal gastrectomy (Finsterer operation).

I have not seen a case of marginal ulcer following subtotal gastrectomy. These patients are relieved of their distressing symptoms, and I have not seen severe anemia develop. For the past several years in Dr. Shallow's clinic all peptic ulcers that come to operation are subjected to subtotal gastrectomy. There are but 2 exceptions to this. First, in cases of healed ulcer with obstruction he does gastro-enterostomy. Second, in a few selected cases of small anterior wall duodenal ulcers he uses the Balfour technic of cautery destruction closure and gastro-enterostomy.

Summary

Seventeen acute perforations were reviewed. Sixteen were due to peptic ulcer. One perforation was due to carcinoma. The duodenum of one patient perforated twice within one year from peptic ulcer. Subtotal gastrectomy is a more serious procedure in patients with malignant disease than it is in patients with peptic ulcer.

Gastro-enterostomy was a satisfactory procedure in 6 patients with healed peptic ulcer plus obstruction. Gastro-enterostomy performed on 12 patients with unhealed (active) peptic ulcers was followed by the development of marginal ulcer in 5 patients. Marginal ulcer developed in 2 of 6 patients following the operation of pyloroplasty.

Subtotal gastrectomy is the operation of choice in patients suffering from peptic ulcer who require surgical treatment. Subtotal gastrectomy is a relatively safe operation when compared to other surgical procedures used in the treatment of peptic ulcer. Subtotal gastrectomy is not as apt to be followed by marginal ulcer as when a gastro-enterostomy is done. An extensive resection of the stomach must be done in order to remove a sufficient quantity of the acid-bearing area.

The use of blood transfusions preoperatively and postoperatively and the use of spinal anesthesia are 2 of the outstanding factors in maintaining a low mortality in doing gastric resections.

Chronic Adult Tetany of Gastro-intestinal Origin

Treatment With Dihydrotachysterol: Report of a Case

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ALTHOUGH the occurrence of chronic tetany in the adult is a relative rarity, there are circumstances, other than the accidental operative removal of the parathyroid glands, where the disease is likely to appear. The commonest of these circumstances is the presence of some prolonged or severe gastro-intestinal disturbance which interferes with bodily nutrition. Digestive diseases in which there is loss of food or of essential secretions through vomiting or diarrhea, or conditions which interfere with the proper absorption of food, especially of fats, from the intestine are frequently complicated by tetany, manifest or latent. This case is presented to illustrate particularly the rôle of an extremely common disturbance; namely, the cathartic habit associated with constipation as a cause of severe and disabling tetanic muscular cramps.

Another significant feature of this case is the indication of vitamin deficiency as the underlying cause in the production of symptoms. Recent reports, particularly those of M. B. Strauss, and D. L. Wilbur and A. M. Snell, have called attention to the rôle of the gastro-intestinal tract in the development or conditioning of vitamin deficiency states. While faulty absorption of vitamin B is most frequently encountered in intestinal disease, malabsorption of fat-soluble vitamins A and D, which play a vital part in the metabolism of calcium, also occurs. This report is pertinent in the light of these studies, as well as those of C. C. Higgins, which indicate experimentally the rôle of vitamin A deficiency in the production of calcium kidney stones. The case here reported presents not only symptoms of tetany but also the presence of calcium kidney stone, the association of night blindness, and extreme dryness of skin and mucous membranes, which suggest concomitant deficiency of vitamin A.

The conspicuous tetanic symptoms in this case were promptly and successfully controlled with dihydrotachysterol (A. T. 10), which has been found particularly efficacious in the treatment of postoperative tetany. To date there are only a few reports in the American literature on the use of A. T. 10 in nonoperative varieties of the disease. It is felt, therefore, that experience with the effective use of dihydrotachysterol, specifically in a case of tetany of gastro-intestinal origin, warrants report at this time.

Case Report

History.—Miss A. L. K., a schoolteacher, age 32, seen on Apr. 4, 1939, complained of stiffness and severe cramping of the fingers, arms, legs, and back. These symptoms had been present and progressive for a little over a year and were frequently so severe, especially upon fatigue, that she could not get up from a chair or even sign her name. For months she was able to walk only by dragging her legs stiffly. On several occasions she was reduced to helplessness, being unable even to get out of bed because her legs were drawn up acutely, her arms both rigidly flexed, and her fingers drawn tightly into the palm. Pain in the lower extremities was frequent and distressing. Abdominal cramps and vomiting directly after meals were of almost daily occurrence. Speech and swallowing had become progressively more difficult because of tightness in the facial and pharyngeal muscles.

She observed that her fingernails had become brittle and her teeth had become harder to whiten. Her fingers and toes tingled and felt numb. Headache, frontal and occipital, was steadily present during the previous 6 months. Her appetite had failed throughout this period, during which she had lost 20 lbs. (9.1 Kg.) in weight.

Constipation, which was present for many years, became particularly annoying during the year prior to her present symptoms. Mineral oil, agar preparations, mild cathartics, and enemata had failed to give relief. She, therefore, employed increasingly stronger cathartics in larger doses and with increasing frequency. Within the past 2 years she took regularly a drastic cathartic mixture* or a saline purge in order to secure daily

* Daily dose 10 "Hinkle pills," the equivalent of 5 to 10 times the average U.S.P. dose of each ingredient (except cascara): Aloin .15 Gm., podophyllin .1 Gm., extract cascara sagrada .15 Gm., extract belladonna .08 Gm., oleoresin ginger .04 Gm.

evacuation of the bowels. The resultant movements were invariably violent and watery. For over a full year she has had at least one such movement daily.

During the past year, too, her mouth and nostrils became parched, making swallowing extremely difficult. She noted also that her skin had become unusually dry and scaly, especially over the nose and cheeks and presented roughened prominence like goose flesh. Coincident with the onset of muscle stiffness she experienced difficulty in seeing at night, particularly in discerning familiar objects in the dimly illuminated portions of her home. During the 2 months before admission the visual impairment had become so pronounced that she was able to go out in the dark only when aided.

In December, 1937, several months prior to the onset of muscle stiffness, the patient suffered an attack of abdominal colic, following which she passed 2 small



Fig. 1. Photograph showing the characteristic Trousseau sign obtained by constricting left arm for 1½ minutes.

urinary stones. No other urinary symptoms occurred. In August, 1938, however, she developed daily bouts of vomiting just after each meal, for which she consulted her local physician. A flat plate roentgenogram taken at this time revealed an opaque shadow in the region of the right kidney. Further studies disclosed an alkaline urine, loaded with staphylococci and occasional white blood cells. The kidney function was then found to be normal, as was the blood urea level (11 mg. per 100 c.c. of blood). On Oct. 10, 1938, a nephrotomy was performed by C. P. McCune, M.D., who removed a large staghorn stone from the right kidney pelvis. Upon analysis the stone was found to be predominantly calcium (calcium carbonate, calcium oxalate, urates). For several days prior to the operation the patient had been severely disabled, being unable to turn in bed because of the muscle spasms in the arms and legs. For 3 weeks after the operation, however, there was considerable remission of the muscle symptoms, and she was discharged from her local hospital Oct. 26, 1938, and advised to take an acid-ash diet.

Because of recurrence and persistence of the muscle spasm, intravenous calcium was started Jan. 30, 1939, gave temporary relief of symptoms, and was repeated on several occasions thereafter. In addition, she had then been advised to take daily dicalcium phosphate (1-3 Gm.) and viosterol (80 U. vitamin D) 3 times daily; also parathyroid extract 3 mg. (orally) twice daily. These measures, however, did not control the muscular stiffness, abdominal cramps, or vomiting. She

BLOOD CALCIUM AND PHOSPHORUS CONCENTRATIONS, SIGNS OF TETANY, AND URINARY ACIDITY DURING ADMINISTRATION OF DIHYDROTACHYSTERO

Date	Dihydrotachysterol Dosage	Serum Calcium mg. per 100 c.c. blood	Serum Phosphorus mg. per 100 c.c. blood	Signs of Tetany	pH Concentration of Urine
4/4/39	None	8.3	...	Severe	Alkaline
4/7/39	None	8.7	4.3	Severe	6.8
4/7/39 p. m.	4 c.c.	...	...	.....	...
4/8/39	2 c.c.	...	...	.....	...
4/9/39	1 c.c.	...	...	.....	...
4/10/39	.5 c.c.	10.2	4.7	Moderate	6.2
4/12/39	.3 c.c.	12.2	4.2	None	NH ₄ Cl started
4/14/39	.....	15	5.2	None	5.7
4/17/39	.....	11.8	5.3	Mild	...
4/20/39	.6 c.c.	...	...	None	...
4/21/39	.....	11.6	4.6	None	...
4/27/39	.3 c.c.	...	...	"	5.8
4/28/39	.....	9.2	3.5	"	6.
5/1/39	.....	9.5	3.5	"	5.8
5/12-27/39	1 drop weekly	10.5	3.6	"	5.5
5/27/39 }	None	9.7	3.7	"	5.5-5.8
to 8/12/39 }		10.7	4.3	"	5.0

was therefore referred for study, and was admitted to the Montefiore Hospital Apr. 4, 1939.

The childhood history was negative for the presence of rickets, convulsions, or diarrhea. The family history was negative. Menstruation had begun at age 12 and has been scant and irregular since. The diet in childhood was adequate in milk content, but almost devoid of such calcium-rich foods as cheese, beans, carrots, lettuce, etc. According to the patient and parents, constipation was the rule almost from infancy. By the time she was age 12 the daily cathartic habit was already well established.

Five years before her present illness she had suffered from pain in the back associated with shuffling gait (tetanic symptoms?), which cleared up spontaneously in 3 weeks. The following year, in an automobile accident, she sustained a fracture of the outer third of the right clavicle, but suffered no direct trauma over the thyroid region.

Physical Examination.—The patient was thin and presented a pinched, drawn, hollow-eyed facial appearance. The corners of the mouth were elevated and the forehead was puckered in anxiety. The hair was dry, coarse, and graying; the skin and scalp dry; the fingernails ridged. There was some hypertrichosis of the face, as well as numerous dry papillae. Signs of irritability were evident in the patient's frequent changes of position during the examination. The gait was stiff, labored, and shuffling.

The temperature was normal, the pulse rate 80 per minute, the respirations 18 to the minute. The patient weighed 105 lbs. (47.6 Kg.) and measured 65½ inches (166 cm.) in height. The blood pressure was 120/80 mm. of mercury.

There was an irregular bony projection over the outer third of the right clavicle at the site of an old fracture. The thyroid gland was not palpable. Examination of the heart and lungs revealed no abnormalities. A healed operative scar was present over the right kidney region. Some tenderness was present upon deep pressure in the right epigastric region. The pelvic examination was essentially normal. The rectal orifice was tightly constricted by a spastic sphincter muscle. No fecal masses could be felt, nor could hemorrhoids or fissures be visualized.

Examination of the nervous system revealed the following: Pupils small, equal, normally responsive; deep reflexes in the arms and legs all bilaterally hyperactive.

Muscular contractions were elicited upon gentlest tapping over any of the muscle masses of the forearms, arms, and calves. Chvostek's sign was present to gentle tapping over the malar prominences on both sides. Trousseau's sign was positive after 1½ minutes of constriction of the arm (Fig. 1).

Tests of electrical stimulation to the muscles of the arm and forearm demonstrated greatly increased neuromuscular irritability—cathodal opening contractions at 2 and 3 milliamperes, and tonic muscular contractions at 2 to 4 milliamperes (H. W. Jacox, M.D.).

Visual acuity was 20/20 in each eye; field and fundus examinations were negative; slit lamp examination revealed no lens opacities.

Laboratory Data.—During the first 2 days of the patient's stay in the hospital the serum calcium level of the blood was found to be 8.3 and 8.6 mg. per 100 c.c., respectively; the serum phosphorus 4.3 gm. per 100 c.c. The basal metabolic rate was minus 8 per cent. The red blood count was 4,050,000 per cu. mm., while the white blood cells numbered 6250 per cu. mm. The Wassermann test was negative. Nonprotein nitrogen of the blood was determined at 30 mg. per 100 c.c., and blood chlorides at 579 mg. The CO₂ combining power, a week after admission, was 68 volumes per cent.

Catheterized specimens of urine upon admission showed only occasional white blood cells without other abnormalities. The pH concentration was 6.8 at this time. Tests of kidney function yielded 56 per cent excretion within the 2-hour period; 42 per cent during the first hour. Culture of the urine revealed the presence of streptococci and staphylococci, the former predominating. The gastric analysis, performed Apr. 25, 1939, revealed free hydrochloric acid 14 degrees and total acidity 24 degrees in the fasting specimen.

The stool, examined on several occasions at the Montefiore Laboratory, was large and light brown in color. Most specimens contained neutral fat and several tested positive for the presence of fatty acids.

Roentgen ray of the gastro-intestinal tract disclosed "slight enlargement and ptosis of the stomach; spasticity of the small intestine, especially in the terminal ileum; persistent residue of barium in the terminal ileum as late as 24 hours after ingestion; ptosis of the colon; dilatation of the sigmoid colon."

Roentgen ray of the long bones (humerus, tibia, and fibula) revealed no abnormality of bone density.

The sugar tolerance test yielded a relatively flat curve:

Fasting blood sugar	.....	110	mg. per 100 c.c. blood
First hour	.....	121	" " " " "
Second hour	.....	120	" " " " "
Third hour	.....	77	" " " " "

Course.—On Apr. 7, 1939, or 3 days after admission to the hospital, medication was started; 4 c.c. of dihydrotachysterol was given on that day and the dose was halved each succeeding day for 5 days. Calcium lactate (4 Gm.) was administered daily by mouth. A high vitamin A, acid-ash diet, as recommended by Higgins, was continued throughout the hospital stay, being divided into 6 small meals, however, because of the patient's tendency to vomit after each full meal. By Apr. 12 all signs of tetany had disappeared. Because the serum calcium level of the blood on this date was elevated to 12.2 mg. per 100 c.c., dihydrotachysterol administration was stopped for several days.

The urine pH during the period of observation was found to be at 6.2 to 6.8 (nitrazine paper tests). Daily

administration of .5 Gm. ammonium chloride t.i.d. was started, therefore, for the purpose of increasing urinary acidity and preventing the precipitation of alkaline sediments in the urinary tract, thus minimizing the danger of nephrocalcinosis.

By Apr. 20, 1939, the appetite had improved considerably and the patient had gained 4 lbs. (1.8 Kg.) in weight. At this date, too, vomiting ceased entirely and did not recur at any time subsequently. During the early part of the hospital stay the use of retention enemata of olive oil was instituted and continued for about 2 weeks. Plain petrolagar was also given in 15 c.c. doses twice daily. These measures failed to result in bowel evacuation for the first week and were supplemented by water enemata. On Apr. 28, however, the bowels moved spontaneously for the first time in years and a bowel movement has occurred almost every day since then without the use of cathartics or enemata. There was little improvement in dark adaptation and dryness of the mouth until 2 weeks after all tetanic manifestations had become controlled. On May 3, 1939, the patient was discharged from the hospital.

For the ensuing 3 weeks a very small maintenance dose of A. T. 10 was continued. The patient has resumed her full occupational duties, has gained weight, and remained entirely symptom-free since, without calcium or A. T. 10 medication. No clinical or roentgen-ray evidence of kidney stone re-formation has presented.

Comment

Trousseau, in his classical lecture of 1867, stated that "of the pathologic conditions (causing tetany) diarrhea, especially when abundant and chronic, is the one which exerts the most striking influence." He also cited the frequency of tetany as a complication of cholera during the epidemic of 1854. Idiopathic steatorrhea (Gee's disease) and sprue have likewise been found frequently associated with evidence of deficient calcium absorption and with manifestations of latent or overt tetany. Recently T. G. Drake and his co-workers, Simon S. Leopold, G. Hetenyi, and others have called attention to the occurrence of tetany as a complication of diverse digestive diseases—gastro-enteritis, ulcerative colitis, various diarrheal states, and colopathies. Repeated purgation as a cause of tetany has been demonstrated experimentally by Marine (1914), and Luckhardt and Compere (1924), who found that parathyroidectomized dogs, kept free from tetanic symptoms by the administration of calcium, were thrown into tetany by purging with croton oil or cascara sagrada.

Hetenyi has demonstrated clinically that calcium fed to patients suffering from chronic enteritis exerted no significant effect upon the blood calcium level, while that fed after the disease had cleared produced a notable rise. Numerous observations indicating reduced calcium utilization in the presence of intestinal indigestion have been made by others. It is not unreasonable to suppose that small intestine

irritation resulting from the prolonged use of podophyllin or other drastic cathartics similarly interferes with *absorption of calcium*. It is believed, therefore, that excessive purgation together with vomiting were primarily responsible for the hypocalcemia in the case here presented.

The parathyroid origin of tetany in this case seems less plausible. The phosphorus content of the blood was not elevated as in true hypoparathyroidism, nor was the calcium content very low. The characteristic feature of this case, in common with most of the cases of gastro-intestinal tetany reported in the literature, is the relatively high blood calcium level, in contrast with that which is found in true parathyroprivic tetany. It is the opinion of recent workers that if any hypoparathyroidism is present in digestive varieties of the disease, it must be merely a secondary phenomenon.

The exact relationship of adult tetany to avitaminosis has not yet been fully determined. The specific influence of fat-soluble vitamin D upon the calcium and phosphorus metabolism of the body is, however, established. This vitamin is frequently lost because of failure to digest the fatty foods in which it is contained, as is well demonstrated by cases which exhibit profound impairment of fat digestion such as steatorrhea (Gee's disease) or sprue. Subvitaminosis of D fractions may occur, however, secondary to other gastro-intestinal disorders in which the disturbance of fatty digestion is not quite as marked. The reported occurrence of epidemic tetany in tailors and cobblers during the late winter and early spring months likewise suggests vitamin D deficiency as a cause of this disease in adults. Whatever the exact etiologic relationship, it is certain that hypocalcemia associated with these conditions falls within the therapeutic sphere of the vitamin D group.

It is doubtful, as G. B. Eusterman has emphasized, whether deficiency disease in man, with the possible exception of scurvy, ever occurs uncombined; generally more than one vitamin is deficient. W. Stepp discusses multiple vitamin deficiencies as a sequel of gastro-intestinal disturbances, and observes that resorption, particularly of vitamin A, by the epithelium of the small intestine is reduced when the retention of foods in the upper bowel is too short for adequate utilization. The reports of I. Bennett and A. M. Snell demonstrate numerous evidences of other

vitamin deficiencies linked with tetany. Gross evidence of the lack of water-soluble vitamins is lacking in the case here presented. The clinical expression of associated vitamin D and A deficiency, however, is striking.

Dihydrotachysterol

For the control of the symptoms of tetany, dihydrotachysterol was used. This preparation (irradiated, hydrated tachysterin) is one of the fractions present in irradiated ergosterol and has been shown to have a highly potent action on calcium absorption from the intestine. Characteristically dihydrotachysterol begins to act in about 48 hours, exerts its peak action within 4 to 8 days, and maintains a continued effect upon the blood calcium level for 7 to 14 days after administration. The rationale for the use of this preparation appears greatest in cases of tetany of gastro-intestinal origin, where absorption of calcium and of the mineral metabolizing vitamins is most seriously interfered with because of diarrhea or vomiting. The drug should, however, be reserved for selected cases, and must be used with great caution.

The response of this patient to A. T. 10 therapy was rapid and lasting, the improvement becoming apparent immediately upon restoration of normal blood calcium levels. Once the tetany was controlled, certain of its visceral manifestations—spasticity of intestinal and rectal sphincter muscles, vomiting, and abdominal cramps—disappeared. Spontaneous bowel movements were restored with the aid of only mineral oil and agar, which had been used previously in large quantities without avail. With the restoration of normal bowel function, normal absorption of calcium resulted and the need for further calcium elevating medication was obviated. Re-establishment of normal mineral metabolism apparently effected complete recovery in this patient.

Conclusion

1. A case of tetany secondary to prolonged intestinal dysfunction is presented.
2. The association of vitamin A deficiency and calcium nephrolithiasis is held to be, like the primary condition, related to the use of drastic cathartics.
3. Prompt recovery through the administration of dihydrotachysterol (A. T. 10) is demonstrated.

Treatment of Tetany With Dihydrotachysterol

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UNTIL recently the treatment of tetany was most unsatisfactory; but, with the introduction of dihydrotachysterol, the treatment of this condition attained a status similar to diabetes. Dihydrotachysterol is a true specific in the same sense that insulin is a specific.

Tetany of both the postoperative and idiopathic types is associated with low serum calcium and high serum phosphorus, the normal calcium-phosphorus ratio of 2:1 tending to be reversed. This, in turn, depends on a deficiency in parathyroid hormone, adequate amounts of this hormone being necessary for the mobilization of calcium. The normal serum calcium is in the neighborhood of 10 mg. per cent and the phosphorus 4.

The parathyroid glands were first described as independent organs by Sandström in 1880. In 1892 Gley demonstrated their function by showing that their removal is associated with tetany. It was not until 1906, however, that Berkely and Beebe were able to report some success using a parathyroid extract in the treatment of tetany. With the perfection of more potent extracts over a period of years, this method of treatment became more effective.

The antirachitic properties of cod liver oil naturally suggested the use of various forms of vitamin D. These, when used in very large doses and with a high calcium intake, are somewhat effective in maintaining a rise in serum calcium.

H. B. Stone, J. C. Owings, and G. O. Gey in 1935 were able to relieve some cases of tetany with parathyroid transplants using a method in which the tissue was cultured in the recipient's own serum prior to implantation.

Thus, until recently there were several methods of treating tetany, all of which had serious limitations.

The use of large doses of calcium salts by mouth, either with or without vitamin D, is limited by irregular and incomplete absorption of the calcium. The large doses of calcium necessary with this method (up to 25 Gm. daily) frequently produce gastro-intestinal symptoms.

Parathyroid transplants are limited in usefulness, both by the extreme difficulty in obtaining

human parathyroid tissue and by the frequent failure of growth or rapid degeneration of the transplant.

Parathyroid extract, even the relatively pure product available today, has a very transient effect, necessitating frequent hypodermic injections. This in itself would not constitute a valid objection were it not for the fact that patients rapidly develop a tolerance to the extract, requiring larger and larger doses to produce a given effect and eventually becoming completely refractory.

Low potassium diets have not proved to be very effective and are rather limited in variety of foods.

By the use of these methods and combinations of methods frank tetany was rare; but normal serum calcium values were practically impossible to maintain and almost all patients constantly presented some symptoms. Most prominent among these were abdominal cramps, muscle twitchings, and paresthesias.

In 1934, Holtz et al. in Germany published the results of their investigations on the calcium mobilizing effects of some of the sterols found in crude irradiated ergosterol. Of the several sterols studied, only 3—tachysterol, toxisterol, and calciferol, which is believed to be vitamin D itself—showed any effect on the serum calcium of animals. All 3 compounds are isomers of ergosterol and bear the formula, $C_{28}H_{43}OH$. Further study showed that tachysterol, while practically devoid of antirachitic activity, was much more effective in raising serum calcium than either of the others, and at the same time was much less toxic. Accordingly, this compound was selected for further study. It was found that the dihydro derivative was both less toxic and more effective than the unmodified sterol. This preparation was found to be capable of raising serum calcium in both normal and parathyroidectomized dogs. Holtz designated this compound Antitetanic Compound No. 10 or, more simply, A. T. 10. In referring to the drug in this paper, the simpler designation of A. T. 10 will be used.

This is the only definitely nonendocrine drug

which has been able physiologically to replace a natural hormone up to the present time.

A. T. 10 was first used in human tetany in Germany where several authors reported remarkable results in both the postoperative and idiopathic types. Their results have been confirmed in the American literature by C. M. MacBryde, Arnold and Blum, N. W. Swinton, and H. M. Margolis and G. Kraus.

The drug is available in this country in a .5 per cent solution in oil and is taken by mouth. Unfortunately, the entire supply comes from Germany, the drug not being manufactured as yet in this country, a fact which may limit its availability due to the present state of affairs in Europe.

We are all familiar with the picture in acute tetany with carpopedal spasm and epileptiform convulsions. However, there is a chronic form of tetany which is not so dramatic and may frequently be unrecognized. In general, the picture in tetany of this type is one of extreme irritability. These patients are restless and excitable and may even have minor psychologic changes. They are easily fatigued, undernourished, have frequent headaches, and show vasomotor instability. They complain of various gastrointestinal symptoms such as nausea, abdominal cramps, and both diarrhea and constipation. There may also be urinary frequency with bladder tenesmus. Soft, rapidly decaying teeth are the rule. Laboratory investigation reveals, in addition to the low serum calcium, a high serum phosphorus and a prolonged coagulation time.

Up to 50 per cent of these patients develop cataracts. These are of the senile type and, unless serum calcium is controlled, are progressive to total blindness. Heretofore, extraction has been extremely hazardous due to the danger of hemorrhage associated with the lengthened coagulation time of the blood. The attainment of normal or near normal serum calcium levels with the coincident return of coagulation to normal greatly reduces this operative hazard.

When A. T. 10 is administered in large enough doses, it will raise serum calcium without the addition of any calcium to that taken in the normal diet. However, the greater the calcium intake the less A. T. 10 is necessary to produce and maintain a normal level of serum calcium. Two to 4 grams of calcium salts daily will serve as a maintenance dose in the average case. This amount will not ordinarily produce gastrointestinal symptoms. From a practical standpoint it is better to use this additional calcium. The drug, while not unpleasant to take, is rather expensive, and at the present time is becoming

increasingly difficult to obtain. In this connection it might be well to mention that, while the unit cost of A. T. 10 is rather high (about \$8.00 for a 15 c.c. bottle), the maintenance dose is usually so small that the cost to the patient over a period of months is much less than for an equivalent period of treatment with parathyroid extract.

When A. T. 10 is given in moderate dosage of about 2 to 4 c.c. daily to a patient with a lowered serum calcium, a rise is noted within 24 to 48 hours; but a full return to normal may not be expected until 14 days or even longer. Fall in serum phosphorus is slower and less complete. Some authorities state that they use larger doses (up to 10 c.c. daily) with much more rapid results. A. T. 10, being a dangerous drug, the full effects of which are not apparent until several days after administration, more conservative dosage is probably safer. This is especially true when it is remembered that relief of tetanic symptoms seems to occur in most cases almost immediately and before there has been a significant rise in serum calcium. Rather than treating the severe, acute attack of tetany with massive doses of A. T. 10 by mouth, it is probably better to rely on calcium salts and parathyroid extract intravenously. The administration of A. T. 10 in moderate dosage should be started at once due to the lag in its effect.

When a normal level of serum calcium is attained, the dose of A. T. 10 may be greatly reduced. As in all deficiency states, the dosage must be strictly individualized. However, most patients seem to be able to maintain a normal serum calcium on doses of from .5 to 1.0 c.c. at intervals of from 1 to 3 days.

After prolonged medication some patients tend to establish a better calcium balance and the initial maintenance dose may be still further reduced.

A. T. 10 is not only capable of raising a low serum calcium but will also raise a normal one, producing a hypercalcemia. This condition is characterized by prostration, vomiting, diarrhea, and coma. If present long enough, there will be bone cavitation with deposition of calcium in the tissues, especially brain, heart, liver, and kidneys, and formation of renal calculi. If a serum calcium level of 16 mg. per cent is reached, death will probably occur. Because of this danger of hypercalcemia, most authorities agree that A. T. 10 should be used only where there are facilities for frequent and accurate serum calcium determinations. F. Albright raises a dissenting voice to this. He feels that it is safe to base the dosage on the Sulkovitz test

for calcium in the urine. This test is based on the precipitation of calcium by oxalic acid. It is roughly quantitative in the same sense as the Benedict test. Although this test has a large field of usefulness in children and in reducing the number of serum calcium determinations necessary in adults, it is probably better practice at this time to continue to place reliance on the serum calcium in determining dosage. The urine test is affected by too many variables such as variations in fluid intake, concentrating power of the kidney, and renal threshold. No one would try to stabilize a severe diabetic using only the Benedict test as a basis for insulin dosage.

The properties of this drug naturally suggest its employment in the treatment of spasmodophilia in children. To date no work has been published on this subject. We anticipate investigating this problem.

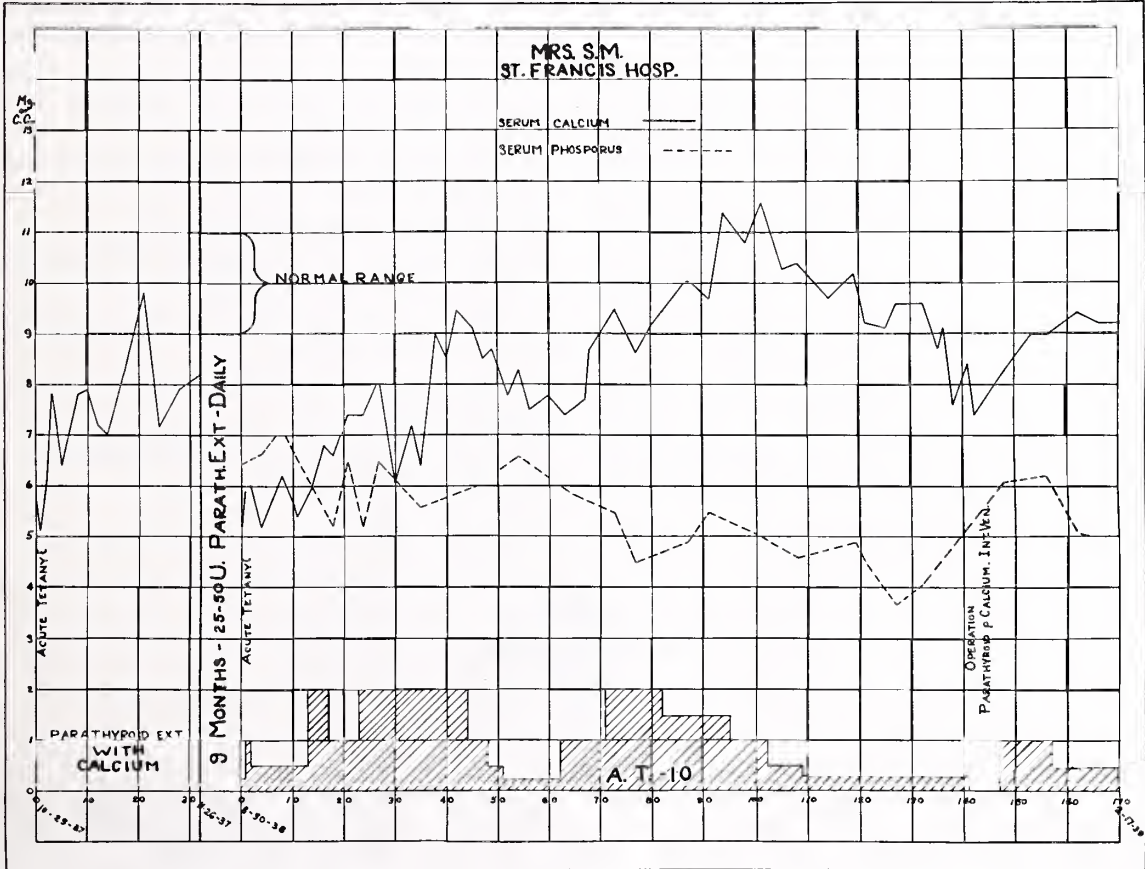
Case Report

Mrs. S. M., age 44, was first seen by me on Oct. 24, 1937. She was acutely ill and seemed to be in great pain. The features were contorted and showed risus sardonicus. The skin was pale, clammy, and cold. The platysma muscles were contracted, throwing the skin of the neck into folds. The arms and wrists were

acutely flexed and resisted attempts to extend them. The thumbs were strongly adducted and rested between the third and fourth fingers. Speech was slurred and difficult. The patient believed that she was dying—an opinion shared by her physician. In short she showed the typical picture of an acute tetanic convulsion. She was given a dose of morphine and immediately sent to the hospital.

According to the history given by the patient's husband and later corroborated by her, she had had frequent attacks of a like nature but of less severity ever since a thyroidectomy in 1927, ten years before. She had had only minor treatment of short duration and uncertain nature since that time. Since the onset of symptoms the patient's eyesight had failed until she was almost totally blind. A cataract extraction was done on the right eye in 1936. This was followed in a few hours by a hemorrhage which resulted in total blindness. A staphyloma of the cornea also developed in this eye. The patient also stated that even between her tetanic attacks she was nervous, irritable, had frequent cramps in her arms and legs, and many attacks of both diarrhea and constipation. She also volunteered the information that she bruised very easily and bled excessively from small cuts.

On examination it was found that the patient was rather obese and showed moderate exophthalmos. The hair was dry, coarse, and sparse. The right eye showed a staphyloma and the left a mature cataract. Vision was zero in the right eye and confined to perception of light in the left. All the teeth were badly decayed. There was a thyroidectomy scar in the neck. Tenderness was found in the right upper quadrant of the



abdomen. There was slight edema of the legs. Chvostek's sign was markedly positive. On admission the patient was still in the tetanic state described above and it was noted that she had bitten her tongue.

A tentative diagnosis of hypoparathyroid tetany was made and calcium and parathyroid extract were given intravenously with prompt alleviation of the tetany. The next day serum calcium was found to be 5.7 mg. per cent and the basal metabolic rate minus 28 per cent.

Conventional treatment with calcium salts, vitamin D, parathyroid extract, low phosphorus diet, and desiccated thyroid was begun, and in 4 weeks' time the serum calcium had been raised to 8.2 mg. per cent and the patient was free from tetanic symptoms. The basal metabolism at this time was plus 6 per cent. The patient was discharged on the following daily régime: desiccated thyroid, 10 grains; parathyroid extract, 25 units; calcium lactate, 20 Gm., along with 4 cod liver oil concentrate capsules.

She continued treatment at home faithfully, but 8 months later, in July, 1938, she began having frequent minor convulsive attacks which continued even when the daily dose of parathyroid extract was doubled and even tripled. Finally, in the latter part of August she had a severe tetanic seizure. She was given 300 units of parathyroid extract hypodermically and a huge dose of calcium by mouth with only partial relief and was readmitted to the hospital. Her serum calcium was found to be 5.2 mg. per cent, this despite the large dose of calcium and parathyroid extract administered only a few hours before. Treatment with A. T. 10 was begun as soon as the drug could be procured.

Being entirely unfamiliar with this drug and having only MacBryde's original paper for a guide, it was decided to be very conservative in dosage. Although a dose of 2 c.c. per day along with moderate amounts of calcium salts was never exceeded, by Nov. 11, or 6 weeks after beginning treatment, the serum calcium reached a level of 9 mg. per cent, the coagulation time was normal, and the dose of A. T. 10 had been reduced to 1 c.c. every second day. In the light of subsequent investigations, it is probable that the same result could have been attained more quickly by using larger doses of the drug at first. However, the tetanic symptoms had subsided almost from the beginning of treatment. The experience in this case would indicate that massive doses of A. T. 10 are not strictly necessary, even in the early stages of treatment.

The patient's condition remained satisfactory, and in January, at her own insistence, Dr. Shanor operated upon her and removed an atrophic gallbladder with one large stone. At about the same time she also survived the extraction of all her teeth, the enucleation of her right eye, and a preliminary iridectomy on the left.

None of these operations was accompanied by undue bleeding and convalescence after all of them was unusually uneventful.

She continued to do well and was discharged on Mar. 2, 1939, feeling well and with serum calcium of 9.2 mg. per cent and basal metabolism of plus 6 per cent. The dosage of A. T. 10 at this time was 1 c.c. every third day along with 4 grams of calcium gluconate and 10 grains of desiccated thyroid daily.

After a rest period of 6 weeks at home on this régime, the patient was readmitted to the hospital for extraction of the cataract. At this time her serum calcium was still 9.2 mg. per cent. Unfortunately, she suddenly began to have violent attacks of sneezing. She was found to be allergic to dust. All efforts to date have failed to stop the sneezing and the cataract extraction has consequently not been done. The patient was discharged from the hospital and since then has been taking 1 c.c. of A. T. 10 twice a week and 4 Gm. of calcium gluconate daily.

There have been no symptoms suggestive of tetany to date and on Oct. 16, 1939, or 14 months after beginning treatment with A. T. 10, her serum calcium was 9.4 mg. per cent.

On July 17, 1940, or 2 years after beginning treatment, the serum calcium was found to be 8.0 mg. per cent and the serum phosphorus 4.67. There had been no symptoms of tetany, although the patient admitted that she had stopped taking calcium salts some time in March, 1940.

Conclusions

1. Dihydratachysterol is specific in controlling the symptoms and in producing and maintaining a normal serum calcium level in patients suffering with tetany.
2. All previous methods of treatment left much to be desired.
3. The drug is definitely dangerous and should be used with caution.
4. The drug is effective by mouth.
5. No evidence of development of tolerance to this drug has been reported.
6. Over a period of time it is less expensive than parathyroid extract.
7. The possibilities of this drug in spasmophilia are being studied.
8. A case is presented in which the drug was used with excellent results.



DIABETES

VI. Diabetic Diets and Eating Habits of Nationalities

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THE diabetic, like every other patient, must be treated as a whole (Table I). The treatment of the "disease component" includes the planning of the management of the diabetes (diet and insulin), the instruction of the patient, and some arrangement for laboratory facilities. The treatment of the person is based upon the evaluation of the patient's attitude toward the disease, the presence of adverse social factors and emotional strain, the quality of his will power, and his ability to learn and remember. Obviously, success remains largely in the diabetic's own hands, because so much depends upon his personal characteristics.

The national background of the diabetic life is one of the many factors involved in the treatment of the total individual. A certain group, because of environment, racial habits, or national customs are profoundly upset when confronted with stereotyped American diets, which not only limit meals quantitatively and reapportion their constituents strangely but call for unfamiliar foods. Consternation, upsets of the household routine, and sooner or later, elementary breaches of dietetic etiquette follow. When we consider that more than a thousand meals a year must be prepared and consumed, that frequently the resources of money, time, and household service are limited, we realize the tremendous importance to diabetic discipline of smoothing away these difficulties. The goal of all diabetic treatment is, of course, desugarization, with a blood sugar curve near normal

throughout the 24 hours, on a diet that is as near as possible to nondiabetic standards. A diet is never normal for the group under discussion unless constructed along national menus. Then the foods will be familiar to the housekeeper and be used in the home. The patient will be able to participate in the family meals, with the minimum of discomfort and temptations, without becoming introspective or a burden to himself and the family; the co-operation of the housekeeper will also be gained by simplifying her labors.

Furthermore, in these troubled times of preparedness it may be advantageous to inquire into the dietary habits of the various nationalities. They may offer foodstuffs that are wholesome, cheaper, and more abundant. Let us, for instance, consider "the general plan of the Italian menu (Table II). Each dish is usually served as a course in itself. A good soup, a savory dish of spaghetti, rice, or vegetables combined with meat, a crisp

salad dressed with oil and vinegar, followed by a piece of fruit, a bit of cheese, and black coffee make a characteristic Italian meal and one with which an epicure could find no fault. It is a meal, moreover, in keeping with the suggestions of our Food Administrator during the World War, who recommended that we use a minimum of meats and sweets and a maximum of soups, fruits, vegetables, made dishes, and cheese."

Our participation in the European War appears remote at this time; still active participation on our part will mean at least self-regulation in many foodstuffs. May I suggest to our Commission on Diabetes that it formulate now plans to meet that emergency from special food cards

This is the sixth in a series of articles to be published in the *Journal* under the sponsorship of the Commission on Diabetes of The Medical Society of the State of Pennsylvania. Subsequent articles will present further results of a detailed study of diabetes. It is planned to consolidate these articles and publish them in book form under the title "Diabetes in Pennsylvania."

Read before the Seminar on Diabetes held in connection with the scientific exhibit of the Commission on Diabetes of The Medical Society of the State of Pennsylvania, Pittsburgh Session, Oct. 4, 1939.

Work done under a grant of the Frank Passarelli Research Foundation, Wilkes-Barre, Pa.

TABLE I
TREATMENT OF THE DIABETIC AS A WHOLE

- a. Treatment of the disease:
 1. Its management (diet and insulin).
 2. Instruction of the patient.
 3. Laboratory facilities.
- b. Evaluation of the person:
 1. Attitude toward the disease.
 2. Emotional strain.
 3. Adverse social factors.
 4. Quality of will power.
 5. Ability to learn and remember.

TABLE II
A CHARACTERISTIC ITALIAN MEAL

	Soup	
M	Spaghetti	D
A	Rice	I
I	Vegetables with meat	S
N	Polenta with meat	H
Salad	Oil	Vinegar
Fruit	Cheese	Coffee

A minimum of meats and sweets.
A maximum of soups, fruits, vegetables, made dishes, and cheese.

for diabetics to special diabetic kitchens for the indigent.

Before discussing the metabolic aspect of my topic, it will be useful to consider some general principles, including those helpful in teaching this group visualization of correct food values. Generally speaking, all foods the world over may be classified in 7 groups—meats, eggs, milk, vegetables, fruit, cereals, and bread (Table III).

The foreign-born housewife cooks her *meats* in savory combinations with vegetables, legumes, or rice. *Eggs* are practically never used for breakfast. When ham and eggs or bacon and eggs are eaten for breakfast, they are adopted from the American dietary. For the other meals they do use eggs in many forms. However, it is best to inquire as to their preferences in this respect and include the special ingredients in the diet. For instance, some Italians prefer their eggs fried in oil and not in butter.

The consumption of fresh *milk* is not as large as we would like it to be, and therefore its use should be stressed. On the other hand, if we remember that sour cream and sour cheese are much used in Russian, Polish, and Jewish cookery, that cheese is a favorite with the Italians, and that many dishes of Eastern Europe are prepared with matzoon (sour milk), there will be no trouble in getting the milk quota into the dietary.

Vegetables are used freely. Because they are usually cooked with meat, fish, or fowl, even the

common and cheaper vegetables become quite palatable.

It is true that *fruits* are seldom eaten for breakfast among the lower classes, but they make up for this omission by eating plenty of them at the other meals. What is more important is to get them to eat more fresh fruits, as they are quite willing to have them for breakfast to round out the meal.

The *cereals* cause no end of trouble. We will readily agree that to deprive a Southern Italian of his spaghetti (wheat) or a Central Italian of his polenta (cornmeal mush) or gnocchi (potato balls), the Eastern European of his pilaf (a rice dish) or darma (a mixture of cereals, vegetables, and meat), or the Jew and German of their noodles, pumpernickel, or strudel (a sort of apple roll) is almost an unbearable punishment, considering the length of the sentence. Fortunately, the modern vogue of high carbohydrate diets and insulin permit the introduction of these cereals in a measure unknown heretofore, to the mutual satisfaction of the patient and the physician. Their *breads* differ from the domestic brands in the endless variety of size and shape, in the coarser texture, and in their greater richness in vitamins and minerals.

All in all the difference between domestic and foreign dietaries in relation to diabetes is a question of menus rather than of food groups. Better transportation and distribution facilities and better methods of preservation in this country render milk, fresh vegetables, and fresh fruit

TABLE III
THE FUNDAMENTAL USE OF FOOD GROUPS BY THE FOREIGN-BORN

1. Meats.
Mostly combined with vegetables, legumes, or rice.
2. Eggs.
Unknown for breakfast. Used freely with other meals.
3. Milk and milk products.
Fresh milk, less popular.
Sour cream, sour cheese in Polish, Russian, and Jewish cookery.
Cheese (Italian cookery).
Matzoon (sour milk of Eastern Europe).
4. Vegetables (used freely).
Combined with meat, fish, or fowl.
Salads.
5. Fruits (dried and fresh).
Less fresh fruits.
None for breakfast.
6. Cereals.
Large amounts of special varieties.
Italian pastes, rice, ravioli.
Pilaf, Eastern European rice.
Noodles, pumpernickel, strudel (Jewish and German).
7. Breads.
Coarser, richer in minerals.

available all year around, almost everywhere. Restriction of immigration and imitation of domestic cooking will gradually lessen the differences still more. But, until the millenium of a standardized American diet for all arrives, it will be necessary for us to obtain the food values from the recipes which the patients themselves will offer only too eagerly. Computation and substitutions will then be easily made.

The manner of teaching the fundamentals of dietetics to the foreign-born is the accepted one,

TABLE IV

HOUSEHOLD MEASURES AND THE FOREIGN-BORN

1. "Slices" of meat and "slices" of bread meaningless to the foreign-born housewife. Weighing necessary.
2. One sauce dish of vegetables = 100 gm. = one serving.
3. One cupful of fluid = 240 gm.
4. Two level tbsp. = 1 oz. = 30 gm.
5. One level tsp. = 5 gm.

TABLE V

PRACTICAL UNITS OF FOOD VALUES

One egg contains 6 gm. protein.
 One cube sugar equals 5 gm. carbohydrate.
 One level tsp. butter = 5 gm. fat.
 100 gm. 5 per cent veg. = 1 cube sugar.
 100 gm. 10 per cent veg. = 2 cubes sugar.
 One oz. bread = 4 cubes sugar.
 One oz. meat metabolizes as 4 gm. sugar,
 almost one cube.

aside from linguistic difficulties and unfamiliarity with his recipes. Scales are desirable, but most of the preliminary training can be given in the outpatient department of a hospital, where he is taught the actual weighing of various foods. In a short time he will be able to guess correctly within a few grams at the amount of common foods, so that scales will be needed only for new recipes or unfamiliar foods. Even without the co-operation of a dietitian, much can be accomplished by advising the tiro to have meat, bread, and cereals weighed out at the store in the amounts prescribed. Repeated visualization of the correct amounts will soon prevent significant errors.

I have been impressed with the wide variations of what a slice of meat or bread means to the average person. To most of the foreign-born housewives the term "slices" of meat is meaningless, because they cook their meats in pieces of an endless variety of sizes and number and seldom serve them sliced. Their bread in a general way is coarser and helpful as a source of roughage. Unfortunately, the shape and size of their loaves is anything but standardized, so that a slice becomes a valueless unit. In the

case of meat and bread it is best to have them weigh the amounts prescribed.

In regard to the rest of the common household measures, the reader is referred to Table IV.

In teaching food values the time-honored equivalents are used as units. One egg contains 6 gm. of protein; one cube of sugar, 5 gm. of carbohydrate; and one level teaspoon of butter, 5 gm. of fat. It is convenient, even in the office or in the home, to demonstrate in this way that 100 gm. of 5 per cent vegetables equal one cube of sugar; 100 gm. of 10 per cent vegetables equal 2 cubes of sugar, etc. Show the patient 4 lumps of sugar and tell him that every time he eats an ounce of bread he takes in the same amount of sugar as in the 4 cubes. He will then have greater respect for your injunction to be careful with bread measurements. In this manner one may also demonstrate that proteins and fats are sugar-formers by suggesting, for instance, that every time an ounce of meat or one egg is taken into the body, they are utilized, as far as the sugar metabolism is concerned, as if they had taken 4 grams of sugar or almost a cube (Table V).

Because of the time limit it is impossible to discuss the metabolic needs of all the nationalities represented in this state. For this meeting I have chosen the Italian group, for which I have been able to gather theoretic information from abroad and with which I have had considerable experience at home.

The Italian Society for the Study of Metabolic Diseases, at its Lombardy meeting in 1936, discussed formulas which experience and physiologic data had found to be most helpful to the health of the Italian diabetic. I have summarized them in Table VI.

1. Moderation in everything is essential. Reduction in total calories and corresponding limitation of carbohydrates, proteins, and fats is stressed.

2. They favor a high carbohydrate diet because it gives a better antiketogenic margin and

TABLE VI

FUNDAMENTALS OF DIABETIC MANAGEMENT (ITALIAN SOCIETY FOR THE STUDY OF METABOLIC DISEASES)

1. Moderation.
2. High carbohydrate diet:
 - a. Antiketogenic.
 - b. Protection for central nervous system, cardiovascular system, liver, and kidneys.
3. Optimal proportion between the 3 groups of food elements.
4. Adherence to standards of calories, proteins, minerals, vitamins.
5. Insulin for normal 24-hour blood sugar curve.

TABLE VII
STANDARDS FOR ITALIAN DIABETICS
(Prof. Zoja of Milan)

Calories	30 per kg.
Carbohydrate	3 gm. per kg.
Protein	1 gm. per kg.
Fat	to make total cal.

Distribution of Calories:

Carbohydrate	50%
Protein	12%
Fat	38%

protects better the central nervous system, the cardiovascular system, the liver, and the kidneys. Besides, such diets permit a better restoration of the patient's nutrition to the ideal character and level of the nondiabetic. It enables the physician to adopt the same dietetic prescriptions for degenerative changes in the cardiovascular or nervous system, kidney, and liver that are desirable in an adult without diabetes. Finally, it eliminates every excuse for special diabetic breads, cereals, etc., as being undesirable and unnecessary substitutes at best, because of their exorbitant prices and the high content of unpalatable protein of low biologic value.

Foods are arranged in about 3 equal meals, especially if insulin is given. At times different arrangements are made to meet individual conditions (night work, unusual glycemic peaks, etc.). Often rearrangement of the diet alone is sufficient; with the reduction of the total calories based upon the ideal weight and a better ketogenic-antiketogenic ratio, the patient is rendered sugar-free, possibly because of a better ratio of endogenous insulin to dextrose. Otherwise insulin control is instituted early.

3. The optimal proportion between the 3 food elements is shown in Table VII. The usual ketogenic-antiketogenic ratio is 1:2.5.

4. The total calories are standardized at 30 per kg. ideal body weight. This ratio varies chiefly with the amount of work done and the temperature of the environment. The most practical guide is the response of the patient's weight as shown by his weight curve which must remain flat at his ideal weight.

Protein must be of high biologic value, i. e., contain all the essential amino-acids. Likewise they stress a good mineral balance to be obtained by large amounts of vegetables, fruit, and bread,

which with butter, milk, and meat supply a satisfactory amount of vitamins.

5. They are not satisfied with a sugar-free patient, but insist upon a normal glycemic curve over the entire 24-hour period. If there are unusual glycemic peaks, insulin is given even if the patient is sugar-free.

These few conceptions, selected for the purpose of my talk, agree pretty well with most of the American standards, so that a detailed analysis of them appears superfluous. Table VIII shows the dietetic standards for Italian diabetics, as proposed by Prof. Zoja of the University of Milan in 1936 and, on the whole, accepted

TABLE VIII
SKELETON DIET FOR 70 KG. (154 LBS.) ITALIAN DIABETIC

Milk	315 gm.	COH = 252 gm.
Meat	100 gm.	P. = 61 gm.
Bread	135 gm.	F. = 83 gm.
Rice or pastes	135 gm.	C. = 2035
Vegetables, 10%	375 gm.	G. = 300 gm.
Fruit, 10%	450 gm.	K. = 117 gm.
Butter	45 gm.	G:K = 2.5:1
Oil	22 gm.	
Carbohydrate per kg.	3.6 gm.	
Protein per kg.	1.0 gm.	
Fat per kg.	1.2 gm.	

Dry wine in specified amounts is permitted, if desired, without special calculation, as it contains about 1 per cent sugar. Other beverages must be appraised according to their sugar content.

by the members of that meeting who came there from every region of Italy.

Finally, let us look at a skeleton diet for a 70 kg. (154 lbs.) Italian diabetic. Except for the absence of eggs, this food list may pass for an American high carbohydrate diet.

In conclusion, let me repeat that every effort on the part of all who treat the person besides the diabetes will be repaid many times. A diet that will permit the patient not only to regain his health but also enjoy a few of the pleasures of the table will be an important step in the right direction. Apparently the only pleasures left at the age when many thousands develop the disease are those of the palate.

Our Commission on Diabetes is considering the publication of a list of diets for diabetics of various nationalities. When this is accomplished, no diabetic worker in Pennsylvania should fail to do better diabetic work among this group.

Indirect Blood Transfusion

A Simplified Method, With a Report of 196 Cases

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MANY papers have been written in recent years on methods of blood transfusion, describing these procedures in great detail, each, however, presenting a variation of 2 methods—the direct and the indirect. In this discussion we are concerned entirely with the indirect citrate method as utilized at the Montefiore Hospital. In the past year, modifications have been made which have simplified the procedure, doing away with details which are not only unnecessary but at times harmful. It is a striking fact, and a tribute to one of the originators of the citrate method (Richard Lewisohn), that in essential details the method has not changed since Dr. Lewisohn first described it in 1915. As we read the original monographs, we are struck by the completeness of the preliminary investigations and the simplicity of the original procedure.

It is our feeling that modifications utilized in a procedure in one institution may well be adapted to another's needs. For this reason we treat this method in some detail.

The donor is placed on the operating table and a Tycos sphygmomanometer is placed around the upper part of the selected arm with the bulb and dial cephalad. In previous years a simple rubber tourniquet was used. We find the sphygmomanometer quite advantageous inasmuch as we can raise or lower the pressure at will and so regulate the flow. With the simple tourniquet, it is more cumbersome to do so and we can only guess as to how much we should lower or raise the pressure. We have, for example, found that at times we may start at 90 mm. of mercury, but find our best flow at 40 mm. The pressure is usually elevated to 100 mm. of mercury and the tension of the vein examined. It is important to note the tension as this is the best guide to the optimum pressure. If we cannot get a sense of good tension in the vein, it is hardly worth while starting to take

the blood. It has been our experience that certain few donors, due to fright or some other factor, are unable to work up a satisfactory venous pressure. The Trendelenburg position may help the flow in these cases. We believe that in the average case the optimum pressure is just about where one begins to see pulsation on the dial. This is usually approximately the diastolic pressure.

We are partial to the use of the large Lindemann cannula. We favor it, first, because of its caliber and, second, because there are no sharp points in the donor's vein to promote clotting.

A small wheal of 2 per cent novocain is raised over the selected vein. A very small incision is made with the exact point of a No. 15 Bard-Parker blade. This incision is no larger than the mark a large needle would make and allows the cannula easy passage through the skin. It also tends to keep the needle portion of the cannula constantly sharp.

Once the cannula is in the vein, the sharp portion is withdrawn and the cannula connected to the collecting apparatus, which has been developed with the aid of the Vacoliter Company and represents one of their 500 c.c. graduated intravenous flasks, with special cork and screw cap. Fig. 2 shows a close-up of the collecting flask.

Fifty c.c. of $2\frac{1}{2}$ per cent sodium citrate solution (if 500 c.c. of blood are to be taken) have been placed in the flask previously by simply unscrewing the special cap and removing the special rubber stopper. The air-vent tube should always be up when collecting the blood, otherwise blood will flow out through it. The blood flows into the flask in a steady stream and the bottle is slightly agitated by a rotary motion of the wrist. With the proper motion, the steady stream of blood into the flask need not be disturbed. The flask is well graduated up to 500 c.c. and the amount of blood can easily be ascertained.

From the Landon Surgical Service and Irene Kaufmann Foundation, Montefiore Hospital, Pittsburgh, Pa.

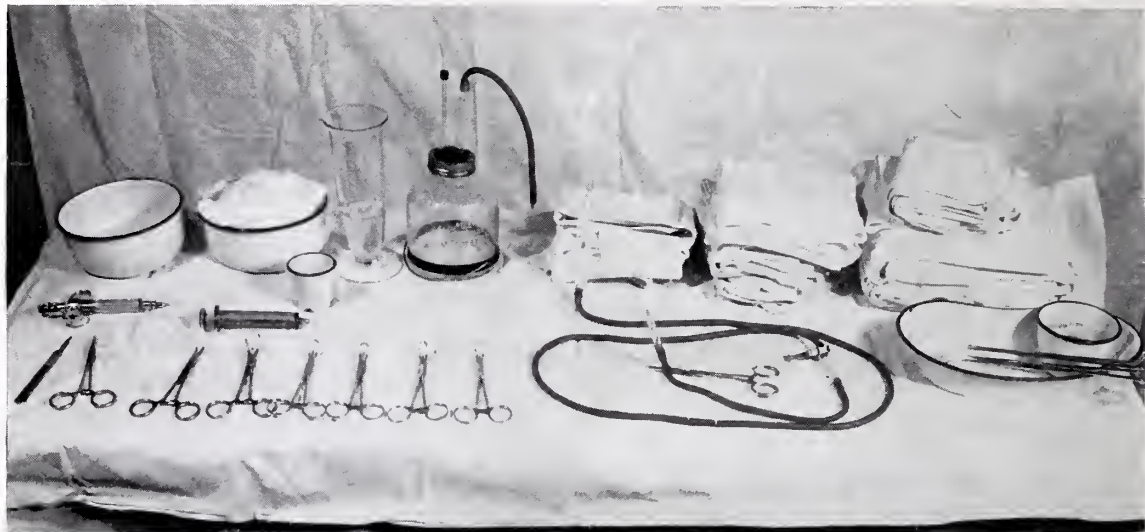


Fig. 1. Showing details of setup used for blood transfusion.

After the desired amount has been collected, the rubber connecting piece and glass adaptor as well as the cannula are removed and thrown into a basin containing hydrogen peroxide. We find this solution effective in preventing the formation of clots and thus simplifying the cleansing procedure later.

The recipient is then brought into the operating room. An ordinary rubber tourniquet is utilized on the arm of the recipient. After painting and draping have been accomplished the vein is selected and the proper needle chosen. We use a No. 17, No. 18, or No. 19 gauge needle, depending upon the size of the recipient's veins. We should like to stress at this point that the needles should always be sharp as this marks the difference between getting into a vein and failure to do so. Before the needle is inserted the intravenous drip which has previously been filled with saline (so that no blood need be wasted in getting out air bubbles) is inserted into the flask, and the flask suspended from the standard ready for use.

The needle is then inserted into the vein and the system connected. The rate of flow is ascertained through the drip tube and one is rarely in doubt as to whether the transfusion is progressing satisfactorily or not. With a No. 17 needle, a steady flow is obtained; with a No. 18 or No. 19 needle a steady drop is noticed.

We have found no contraindication to giving the blood rapidly. However, when the patient's disease precludes rapid administration, the blood flow is regulated accordingly. Speed shock is an entity which, if present, has not been sufficient to draw our attention. It will be noted that no attempt is made to keep the blood warm by im-



Fig. 2. Collecting flask.

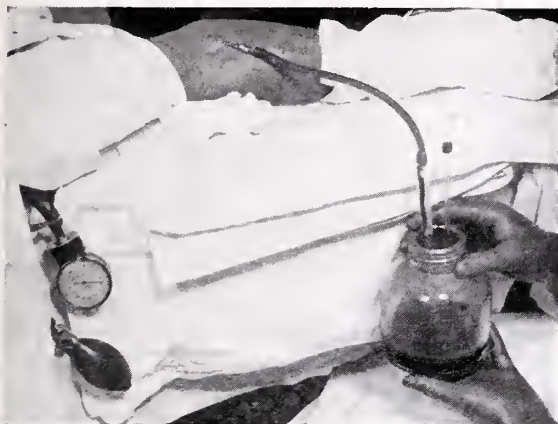


Fig. 3. Collecting the blood.



Fig. 4. Inserting vacodrip into blood receptacle.

mersing it in warm solutions, nor has any method of filtration been utilized. We have not found the first procedure necessary and we believe that the second merely introduces an unnecessary foreign element such as lint into the blood, with subsequent possible transfusion reactions.

At this point we should like to emphasize a procedure which we have found valuable in many cases. For example, where a patient has no arm veins available, a cut-down exposure of the vein slightly anterior to and at the superior border of the medial malleolus is made. A small Lindemann cannula is inserted directly into the vein between 2 loose ligatures which are then removed. The sharp part of the cannula is removed as soon as the vein is entered and the blunt portion driven up into the lumen without fear of transfixing the vein. When the transfusion is finished, the cannula is removed and a mosquito clamp is placed just at the opening made by the cannula for a few minutes and then it is removed. No ligation is necessary and no further bleeding usually ensues. The skin is then sutured. We have used the same vein as many as 10 times in this manner.

Whenever the vein must be re-utilized, the skin sutures are removed, the incision spread

open, and the vein is easily exposed. The granulations are wiped off the vein and the vessel recannulated in the same fashion as described above. As yet we have encountered no thrombosis. In previous years a small cut was made in the vein with a scissors before introducing the cannula. Subsequently, the vein had to be ligated and could not be utilized again. It is not satisfactory to use an ordinary needle on a vein which has been exposed in this fashion because one almost invariably transfixes the vein or dissects the wall with the long beveled point of the needle. The procedure which we have described has been invaluable to us where a patient has very poor veins, and we have also found it of value in repeated transfusions on very small infants.

Our method of transfusion is particularly useful where a patient is getting continuous intravenous drip with a Baxter Vacoliter set, as they so often do in our institution. Whereas in other methods the system must be disconnected at the needle with its attendant fumbling, and danger of disturbing the needle, in this method the drip is merely taken out of the flask containing glucose or saline and placed in the flask containing

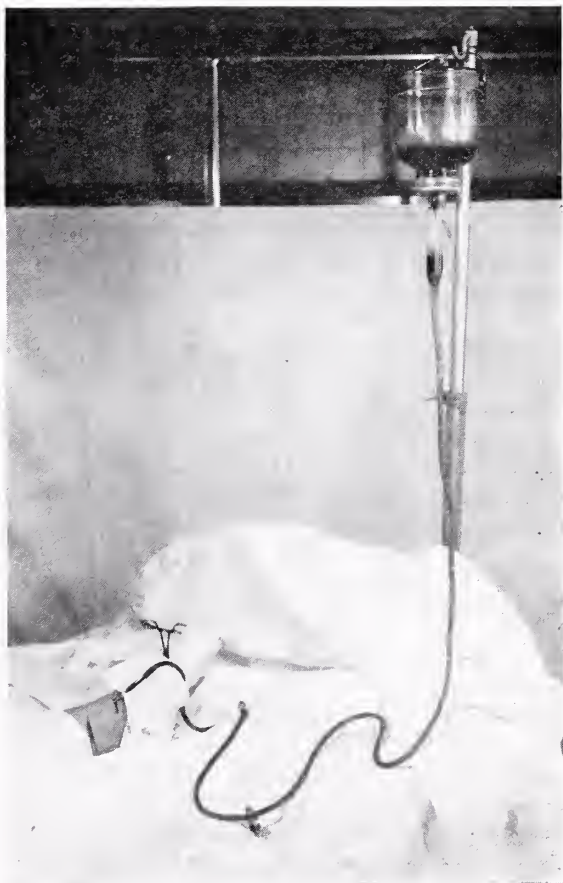


Fig. 5. Method of giving the blood.

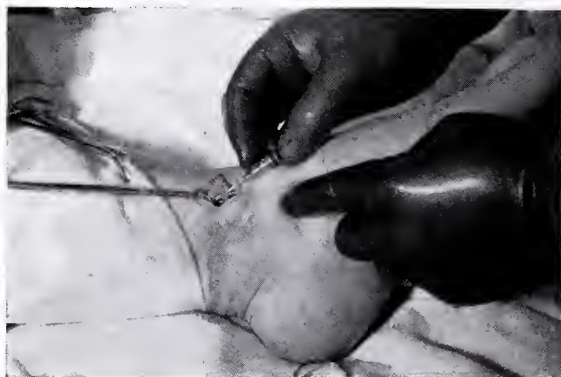


Fig. 6. Cannula being inserted into exposed vein.

blood. After the transfusion, the flask containing glucose or saline is reconnected. The transfer is simple, rapid, clean, and efficient.

The ease with which blood can be preserved in these flasks is readily apparent. The flask is capped with a special rubber and metal cap supplied by the Baxter organization and stored in the icebox at 4 degrees centigrade.

We have given continuous transfusion drips by this method with great satisfaction. The flasks are merely connected at the drip as if the patient were getting continuous intravenous glucose.

Transfusion in the home attains utter simplicity in this procedure. The blood can be taken in the hospital from the donor, capped by the method described above, then transferred to the home and given intravenously.

The method has been described in some detail and perhaps sounds complicated. However, in reality, it is the essence of simplicity and can be performed by one person after the set has been prepared. Blood is at no time exposed to the air and there is less chance of contamination. Any number of transfusion sets can be assembled at a very minimal expense to the hospital.

No discussion of a method of transfusion is complete without a consideration of the percentage of post-transfusion chills. This has been the stumbling block since Lewisohn first described the method. As recently as 1923 Lewisohn reported a reduction in the number of chills to 13 per cent and in 1930 to 12 per cent. However, in 1932 Lewisohn and Rosenthal reported an improved technic with a reduction in the percentage of chills to 1.2 per cent in a series of 331 transfusions. They ascribe the reduction in chills as for the most part due to the centralization of supplies and proper cleansing of the apparatus. They give an elaborate method of cleansing the apparatus, using triple-distilled water, sodium hydroxide, boiling, and autoclaving.

We quite agree that, aside from the proper typing and cross-agglutination, mechanical cleansing is the most important factor in the prevention of chills. However, we do not find it necessary to go through such an elaborate method of cleansing. At our institution the following technic is used:

I. *Preparation of New Tubing.*

(All tubing is of the transparent latex rubber variety.)

a. The tubing is placed in a solution of sodium carbonate—2 ounces to one quart of ordinary distilled water.

b. Autoclave for 30 minutes at 15 pounds' pressure.

c. Vigorously rinse each section of tubing with distilled water, using 50-c.c. syringe.

II. *Preparation of Set for Transfusion.*

a. Cleanse glassware and rubber tubing by thorough washing with tap water.

b. Cleanse well with green soap and tap water.

c. Rinse with tap water.

d. Rinse with distilled water.

e. Dry thoroughly.

f. Place in tray, autoclave 30 minutes at 15 pounds' pressure, then vacuum for 10 minutes.

NOTE: After 10 to 12 sterilizations, the rubber tubing is discarded, as it becomes soft and soggy.

We should like to stress the importance of chemically pure citrate solution. Several years ago when our citrate solution was being prepared in the drug room, the percentage of chills ran anywhere from 10 to 15 per cent. With the

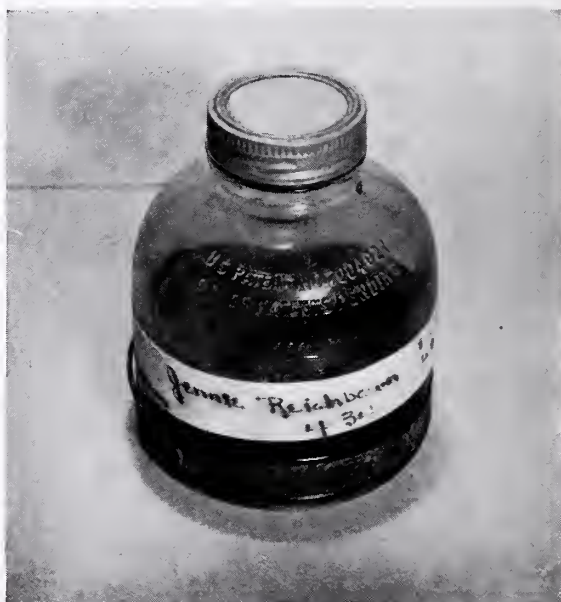


Fig. 7. Flask complete for storage in icebox.

inception of ampule citrate prepared by Parke, Davis & Company, the number of reactions dropped perceptibly until at present they have reached the low level which we are about to report.

At the present writing we are reporting a series of 196 cases dating from Jan. 2 1938, to Sept. 10, 1938, in which there have been no post-transfusion chills. We do not ascribe this lack of chills to the fact that we have a transfusion service. However, we do think that efficient mechanical cleansing and simplicity of procedure have been important factors in the production of these good results.

Summary

We present a modification of the citrate method as utilized in our institution. The method presents the following advantage:

1. Simplicity.
2. No exposure to air.

3. It can be performed by one person.
4. There is no difficulty in changing to a continuous intravenous drip or vice versa.
5. It is ideal for transfusion in the home.
6. Continuous transfusion drip is quite feasible and simple with this method.
7. Blood can be stored easily with no fear of contamination.
8. Any number of transfusion sets can be assembled at very small expense.

Conclusion

One hundred and ninety-six cases of consecutive transfusions performed by this method in the hands of various individuals yielded no post-transfusion chills.

Thanks are hereby extended to K. Yardumian, M.D., head of laboratories, Albert Levin, staff photographer, and Miss Frances McCaffrey, operating room supervisor.

MALPRACTICE INSURANCE

The membership of the society is probably fully informed of the fact that the Michigan State Medical Society for good reasons as publicized has had to discontinue the provision of legal counsel in case of malpractice suits.

The only method by which a physician can now protect himself from the annoyance of a law suit and the assessment of damages is through the medium of malpractice insurance.

It is inconceivable that anyone practicing medicine should fail to provide himself with this "peace of mind" insurance, yet instances of a rude awakening by a court summons are not unknown.

If you are not now protected by malpractice insurance, you should proceed without delay to do so; if already insured, it behooves the physician to read and understand his policy so that he may know the extent and conditions of the protection afforded him. A number of considerations should be kept in mind among which the following are important:

The amount of insurance provided should be adequate considering the type of patient constituting the physician's practice, whether specialist or general practitioner, and the personal wealth of the physician, actual or reputed.

One practicing a specialty should carry a larger amount of malpractice insurance because he is often personally unacquainted with his patients, has the more difficult cases to treat, and is held to a higher standard of care.

The "limits of coverage" of the policy provide the minimum and maximum of liability on the part of the insurance company. The meaning of this phrase is ordinarily explained in the policy itself, but briefly, it means that the limit of liability of the company in any single suit is for the smaller amount, and for any number of suits in one year, for the larger amount stated.

The policy should cover any claim of malpractice

arising during the policy year, regardless of when the suit may be brought. Old policies should always be preserved because, in the case of a minor, suit may be delayed until he has reached his majority, which may be many years after the patient was treated, and the physician should know who was his insurer at that time. For this reason, too, the company should be selected for its stability and financial standing. The 3 principal companies writing malpractice insurance are all reliable and reputable.

The physician who regularly employs medical assistants should assure himself that he is protected against any claim that may arise out of the principal and agent relationship. The existence of such relationship must be disclosed in the application for insurance and the company kept currently advised of changes which may take place. The policy should protect the physician as to nonmedical assistants, such as nurses and technicians, and usually does so except as to technicians engaged in roentgen-ray therapy.

Most policies are broad in covering the field of the physician's activities at standard premiums. An exception exists in roentgen-ray practice, where there is an additional premium if deep or superficial roentgen-ray therapy is administered. It is important to understand thoroughly any limitation or exceptions stated in the policy.

Physicians employed in charitable institutions, private or governmental, with or without pay, should realize that they are personally not exempt from suits for malpractice, whether interns or staff members, even though the institution cannot be sued. This misunderstanding of the law is still current.

An ounce of protection is worth a pound of cure!—
Detroit Medical News.

Four things come not back: The sped arrow, the spoken word, time past, the neglected opportunity.

Staphylococcic Septicemia Coexisting With Diabetes

Report of a Case with Recovery

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Lancaster, Pa.

IN THE *Archives of Internal Medicine*, June, 1939, Theodore H. Mendel, M.D., of Mount Sinai Hospital, Philadelphia, reviewed 35 cases of staphylococcic septicemia with 6 recoveries, 29 deaths, and 16 necropsies. He reported 9 cases of coexistence of diabetes mellitus with staphylococcic septicemia with fatal outcome.

Case Report

J. B., age 49, a Jewish storekeeper, was admitted to the Lancaster General Hospital, on Feb. 28, 1939, because of an infection of the left leg and a temperature of 103 F. This infection was secondary to an ulcer on the left foot which had been self-treated for 10 weeks. He had been a known diabetic for 3 years, but had refused treatment other than diet. The blood sugar on admission was 350 milligrams per 100 c.c. with 4-plus sugar in the urine. He was placed on a diet of C 150, P 70, F 120 Gm. and was stabilized on 50 units of protamine zinc insulin, rendering the urine sugar-free by Mar. 9, and it has remained so.

On Mar. 1 a blood count showed 73 per cent hemoglobin, 4,140,000 red blood cells, 36,200 white blood cells, 85 per cent polymorphonuclear leukocytes, 8 per cent lymphocytes, 7 per cent mononuclears, 7 per cent nonsegmented polymorphonuclears, and the red cells appeared normal. The blood cholesterol was 200 mg. per 100 c.c. The blood Wassermann reaction was negative.

The cellulitis progressed and on Mar. 4 an abscess in the affected leg was incised under a local anesthetic. A culture from this leg showed *Staphylococcus aureus*.

On Mar. 13 the blood count showed 73 per cent hemoglobin, 3,780,000 red blood cells, and 16,300 white blood cells. The erythrocyte sedimentation rate showed the curve of acute infection. On Mar. 19 it was noted that the urine was loaded with pus cells, neutral in reaction. Ammonium mandelate tablets were administered.

On Mar. 27 the blood count showed 52 per cent hemoglobin, 2,480,000 red blood cells, 16,300 white blood cells, and slight anisocytosis. On Mar. 29 the first blood transfusion was given. On Apr. 1 the blood culture taken Mar. 29 was reported negative. On Apr. 4 roentgen ray of the left lower extremity showed no evidence of advanced osteomyelitis but slight irregularity along the cortex in its anterior aspect which might represent bone infection; the arteries of the extremity were markedly calcified. Another small transfusion was given, and it was decided that amputation was imperative.

The diet was changed to C 250, P 70, F q.s. 1800 calories, divided into 6 equal feedings to be given every 4 hours, with regular insulin (10 units) before each feeding.

On Apr. 4 the blood culture taken Mar. 29 showed *Staphylococcus aureus*. On Apr. 10 a blood culture taken Apr. 6 showed *Staphylococcus aureus*. On Apr. 13 sulfapyridine was started—2 Gm. as the first dose, followed by 1 Gm. every 4 hours accompanied by 3 gr. of sodium amytal. After 2 days the medication was discontinued because of nausea and anorexia, but at the same time a marked improvement in the pyuria was noted and the temperature dropped from 101 F. to normal.

Four roentgen-ray treatments were administered to the left leg between Apr. 8 and Apr. 14. Blood cultures taken Apr. 14 were reported to be negative. The temperature again began to rise on Apr. 19 and sulfapyridine was again begun, 2 Gm. the first dose, followed by 1 Gm. every 6 hours in milk, and this was continued until May 5. On Apr. 20 it was reported that the blood culture taken Apr. 15 showed *Staphylococcus aureus*. A blood culture taken May 1 was reported to be negative. Elixir of mandelic acid was administered, 2 drams 4 times daily, from Apr. 26 to May 9. On May 20 the urine was still loaded with pus, there was afternoon fever, and the anemia was unimproved. On May 22 an incision over the external malleolus was made. On May 26 a roentgenogram of the left foot showed general areas of destruction in the tarsal bones, of the proximal ends of the metacarpal bones, and an area in the proximal phalanx of the distal end of the fourth metatarsal bone. The arteries were markedly calcified, considerably increased since the previous examination. Six small transfusions were administered between Mar. 29 and May 29.

Circular amputation of the lower third of the left thigh was decided upon and performed May 29. On May 30 the patient was placed on a soft diet C 40, C 40, C 40, and on May 31 was placed on his diet of C 150, P 70, F 120 Gm. and 40 units of protamine zinc insulin which he continued. The patient gained from 116 to 138 pounds. The anemia gradually improved and the number of pus cells in the urine gradually decreased to the point of 10 to 12 per high power field.

On Sept. 19, 1939, the patient had no complaints, his weight was 144 pounds, fasting blood sugar 140 mg. per 100 c.c., urinalyses negative for sugar, and he was taking 32 units of protamine zinc insulin daily. Urinalysis on this date showed a heavy trace of albumin and 40 to 50 pus cells per high power field.

In March, 1940, hematuria occurred but disappeared after a week's rest in bed.

On Sept. 10, 1940, the patient's only complaint was blurring of vision in the left eye. His weight was 164 pounds. The diabetes was controlled with 26 units of protamine zinc insulin daily. Urinalysis showed a cloud of albumin and 25 to 35 pus cells per high power field.

EDITORIALS

THE THIRTY-FIFTH ANNIVERSARY EDITION OF THE WEEKLY ROSTER AND MEDICAL DIGEST

As stated in the preface, this publication is "An historical review of the activities of America's original county medical journal; its 90-year-old sponsor, the Philadelphia County Medical Society, and many friends whose co-operation has helped to sustain it through the years."

The late Samuel Horton Brown, M.D., was the editor. The Publication Committee consists of Drs. Edward W. Beach, Stanley P. Reimann, and Eugene P. Pendergrass, chairman. The advertising director is John Paul Dorland.

"The Introduction" was given by Rufus S. Reeves, M.D., president of the Philadelphia County Medical Society.

Among the contributors are A. Bern Hirsh, M.D., formerly of Philadelphia, now living in New York City, the founder of *The Weekly Roster*, and its first editor. He details "How *The Weekly Roster* Began." The "branch" system was first established by the Philadelphia County Medical Society as a demand created during the development of *The Roster*. Samuel Horton Brown, M.D., has 4 articles covering important activities, and Arthur C. Morgan, M.D., relates the history of the society from 1930 to 1940.

The compilation is a valuable historical contribution.

THE EDUCATIONAL NUMBER

The educational number of *The Journal of the American Medical Association*, Aug. 31, 1940, is as usual one of the very big, special, annual features of the *Journal* that is deserving of commendation. It forms a source of information that cannot be obtained anywhere else.

This special number covers the field of medical education in the United States and Canada, and constitutes the fortieth annual presentation of educational data by the Council on Medical Education and Hospitals.

The table of contents includes medical schools, medical students, continuation study for prac-

ticing physicians in the United States, principles regarding graduate medical schools, approved examining boards in medical specialties, hospitals approved for training interns, and approved residencies and fellowships.

A. M. A. SECRETARIES' CONFERENCE CANCELLED

The following letter was received on Aug. 29, 1940, from Olin West, M.D., secretary and general manager of the American Medical Association. It conveys a notice that the Annual Conference of Secretaries of Constituent State Medical Associations will not be held this year.

In the text of the letter the reasons are given as to why this conference is not to be held. We would urge every member to read this letter carefully for the general information it imparts. There is much food for thought. If our members would throw their moral support in full measure back of the officers of the A. M. A., it would help a lot. There is much at stake.

Dr. Frank C. Hammond, *Editor*,
Pennsylvania Medical Journal,
Philadelphia, Pa.

DEAR DR. HAMMOND:

The Board of Trustees of the American Medical Association, after careful consideration, has decided that the Annual Conference of Secretaries of Constituent State Medical Associations will not be held this year.

Some of the major reasons for the action of the board are as follows:

The work incident to the undertakings of the Committee on Medical Preparedness is tremendous in volume and engages a large part of the time of various members of the association's administrative personnel. It is essential that this work be carried on intensively until the task is completed.

It appears to be necessary that there be an undetermined number of meetings of the Committee on Medical Preparedness and possibly 2 or more conferences of that committee with state chairmen, the first of which is to be held here on Sept. 20.

We have been officially informed that the case of the United States versus the American Medical Association et al. will go to trial on Oct. 21 and that the hearings of this case will extend over a period of 2 months or more, during which time at least 4 of the administrative personnel of the association will be required to be in court in Washington.

The costs involved in carrying on the activities of the Committee on Medical Preparedness will be very heavy as will be the costs involved in the defense of the suit brought against the association by the Department of Justice of the United States.

I am very sure that the members of the Board of Trustees and all of us here regret exceedingly that it is necessary to suspend the Annual Conference of Secretaries of Constituent State Medical Associations for one year, and we hope that the conference may be held about the usual time in 1941 and that all state secretaries and editors will be present on that occasion.

Very sincerely yours,

OLIN WEST.

CHARLES FRANCIS NASSAU, M.D.

Dr. Charles Francis Nassau, distinguished surgeon and former director of Public Health of Philadelphia, died suddenly of a heart attack at an Easton Hospital, Aug. 11, 1940. He was taken ill at a fishing camp in Pike County on Aug. 10.

Dr. Nassau was born at Benita, French Congo, West Africa, Nov. 12, 1868, a son of the Rev. Robert Hamill Nassau, M.D., S.T.D., who was in the employ of the Board of Foreign Missions of the Presbyterian Church, as was his mother, Mary Cloyd Latta. He was brought to the United States at the age of 2½ years.

Dr. Nassau's early education was obtained at the following institutions in Pennsylvania: Friends' School, Eastburn Select School, Hancock Grammar School, Lauderback Academy (private), and Pennsylvania Military Academy. He attended the School of Biology, University of Pennsylvania, 1886-1888, and was graduated from the University of Pennsylvania School of Medicine in 1891, and from Jefferson Medical College of Philadelphia in 1906. He was a member of Brooks' expedition, Johns Hopkins University, 1887, spending 7 weeks in the Bahama Islands. Dr. Nassau pursued graduate studies at Frederick Wilhelm University, Strassburg, Germany; at the University of Vienna; and as clinical assistant to Mr. Lawson Tait, Birmingham, England.

Dr. Nassau served his internship and surgical residency at the Presbyterian Hospital, Philadelphia, 1891-1892, and held the following positions: assistant surgeon, service of William S. Halsted, M.D., Johns Hopkins Hospital, Baltimore, 1894-1895; substitute for E. G. Conklin, M.D., School of Biology, University of Pennsylvania, October, 1895, to February, 1896; assistant physician, Pathologic Department, German Hospital (Lankenau), 1897-1898; surgeon to dispensary, St. Joseph's Hospital, Philadel-

phia, 1898-1911; surgeon to St. Joseph's Hospital (replacing J. Chalmers Da Costa), 1900 to date of death, also president of the staff; surgeon to the Frankford Hospital, Philadelphia, 1905-1915, and chief surgeon from 1915 to date of death, also medical director and president of the staff; assistant surgeon, Jefferson Medical College Hospital, Philadelphia, 1907-1910, associate in surgery, 1907-1908; assistant professor of surgery, Jefferson Medical College, 1910-1926, associate professor of surgery, 1926-1930, and clinical professor of surgery, 1930 until death.

Dr. Nassau was consulting surgeon to Mount Sinai Hospital, Kensington Hospital for Women, and the Rush Hospital for Consumption and Allied Diseases, all of Philadelphia, and the Pottstown Hospital. He was on the courtesy staff of St. Joseph's Hospital, Reading, the Reading Hospital, the Bryn Mawr Hospital, and the Germantown Dispensary and Hospital, Philadelphia.

He was awarded the following honorary degrees: LL.D., Villa Nova College, 1912, and Sc.D., St. Joseph's College, Philadelphia, 1931. He was honorary president of the J. Chalmers Da Costa Foundation and a member of the Founders' Group, American Board of Surgery. Dr. Nassau was director of the Department of Public Health of Philadelphia in 1939.

He was a member of his county (life member, president in 1932) and state (delegate several times in the House of Delegates) medical societies and a Fellow of the A. M. A., and the American College of Surgeons; member of the College of Physicians of Philadelphia, Philadelphia Academy of Surgery, Medical Club of Philadelphia, Sydenham Medical Coterie, Alpha Mu Pi Omega, Northeast Medical Club, and the Physicians' Motor Club; also the Pennsylvania State Fish and Game Protective Association, the American Museum of Natural History, the American Association for the Advancement of Science, the Pennsylvania Society of Sons of the Revolution, the Philadelphia Zoological Society, and several other clubs.

During the World War Dr. Nassau served as first lieutenant, Medical Reserve Corps; major, Medical Reserve Corps; chief surgeon, Base Hospital No. 38, 1917-1919; and lieutenant colonel, Medical Reserve Corps (inactive). He received the World War Medal, Meuse-Argonne, Defensive Sector.

In 1896 Dr. Nassau was married to Bessie Sherrerd Green, who with 2 daughters and a son survives.

Councilor District Meeting Reports

SECOND COUNCILOR DISTRICT MEETING

The annual meeting of the Second Councilor District was held on Sept. 12 at Trainer's Restaurant, Quakertown, in the rich agricultural district of Bucks County.

The Bucks County Society and its Woman's Auxiliary spared no pains in making this the largest and most successful councilor district meeting in the memory of all.

By 11 a. m. the members of the councilor district and of the woman's auxiliaries were arriving. The day was bright, the weather invigorating, and the setting beautiful enough to make everyone glad to be there. From the gestures and moods observed, everybody was having a good time greeting each other and meeting those that only such an occasion brings out.

This social feature is getting to be a greater event each year judging by the difficulty and the time it requires to get the crowd into the dining room. Many had failed to send in their acceptances and had made up their minds at the last minute because of the inviting weather.

At 1 p. m. Councilor Edgar S. Buyers managed to get everybody seated. Floral decorations in profusion (provided by the Bucks County Auxiliary) and mounds of fruit on the mantelpieces pleased the eye. These supplied the necessary mental stimulus for the appetite for dinner which kept all busy for an hour and a half.

In presenting the representatives of the woman's auxiliaries, Dr. Buyers said: "We owe much to the woman's auxiliaries for making the councilor district meetings successful, and for their interest in our welfare." Those presented were: Mrs. Maxwell Lick, president-elect of the Woman's Auxiliary to the State Society; Mrs. E. Arthur Whitney, councilor of the Second District; Mrs. Milton F. Percival, chairman of the Committee on Arrangements at the State Convention; Mrs. Clyde R. Flory, chairman, Committee on Arrangements, Second Councilor District meeting; and Mrs. Charles J. Swalm, chairman, Philadelphia County Woman's Auxiliary.

Dr. Buyers announced that 209 were present: Lehigh County, 46; Berks County, 12; Bucks County, 30; Delaware County, 23; Chester County, 23; Montgomery County, 60; guests 15.

A 5-minute intermission was declared so that the women might retire for their meeting.

Councilor Buyers called the meeting to order at 2:30 p. m. A photographer took pictures of the candidates for the 50-year testimonials and of the speakers.

Dr. Buyers expressed his pleasure and gratification at the attendance, saying, "This turnout has exceeded my expectations, and I am delighted to see the interest shown in these annual meetings. Each year shows a progressive increase in the attendance. When the president of any county society is not on the job, his duty falls on the secretary. Since President Crough of our host society cannot be with us today, I call on Secretary J. Fred Wagner to step up to the bat."

DR. WAGNER: "A pinch hitter often strikes out. I will take one strike and run. To my knowledge this is the first time the Bucks County Society has been host

to the councilor district. Because of the beautiful weather, added attractions, and growing interest, this is the largest councilor district meeting we have ever held. We are glad you have come. I welcome you in the name of the Bucks County Society and its woman's auxiliary. I hope your visit will be long remembered."

DR. BUYERS: "I present a past president of the State Society. His initials A. C. are the trade name of a well-known spark plug. As this spark plug radiates fire, so does A. C. Morgan radiate much the same kind of energy."

DR. MORGAN: "I appreciate the honor of being here and I enjoy this immensely. This is a record-breaking attendance, and much credit is due the activity of the Bucks County Society. This is a trial meeting of what we expect the annual meeting of the State Society to be. This year celebrates the founding of the State Medical Society 90 years ago, and finds the meeting in the same city in which the society was organized. It is a treat to one in the forefront of our State Society to see so much interest, enthusiasm, and loyalty to the profession displayed."

DR. BUYERS: "I present to you George C. Yeager, councilor of the First District. George, make a bow or a speech."

DR. YEAGER: "I am no stranger at the meetings of the Second Councilor District. It is a pleasure to witness such interest in organized medicine. I congratulate you, Edgar, on this large turnout; it is the largest councilor district meeting I have ever attended."

Reports of District Censors

DR. BUYERS: "The welfare of the State Society depends on the strength and activities of the county societies. Of 16,000 physicians in the State of Pennsylvania, 9000 belong to the State Society. In 5 years the State Society has gained 1000 members; formerly it used to take 15 years to get that many. By June 1 of this year 99 per cent of the members had paid their 1940 dues. At this time it is customary for the censors of each component county society to report on the growth, activities, and other matters of interest since our last councilor meeting. This is to acquaint each county society with the accomplishments of the others and to suggest means of improving their work."

Harry D. Lapp reported for the Berks County Society. He invited the Second Councilor District to meet in Reading in 1941.

William G. Moyer reported for the Bucks County Society.

U. Grant Gifford reported for the Chester County Society, and added: "We are blessed with unusually active men in our Economics and Public Relations Committees. These men are very diligent. They have interviewed all political candidates and have their statements that they are opposed to the socialization of medicine. The candidates have promised us their support and co-operation, and they have asked us for our help and guidance in legislation that would affect us. Our members co-operate 100 per cent in the new pre-

marital examination law. We are interested in hospitalization insurance for our patients. We have a very active chairman for our hospitalization insurance committee—Robert T. Devereux. I hope, Dr. Buyers, that you will allow him a few minutes to explain future plans in hospitalization insurance."

Dr. Devereux spoke of the rapid growth and extension of hospitalization insurance. Hospital administrators tell us that this new growth will be the salvation of the medical profession. Dr. Devereux spoke of the Ward Plan which the Philadelphia Hospital Service Association proposes to sell to groups and individuals with an income below a certain level. The rates for the Ward Plan are as follows:

For a single man earning less than \$1000 annually, 50 cents per month.

For man and wife earning less than \$1500 annually, 75 cents per month.

For man and family (combined income) \$2000 annually, \$1.00 per month.

In this territory this income group comprises a large percentage of the population. It means much to us if this plan is put in operation here, but 60 per cent of the hospitals do not permit physicians to collect fees for any ward service. Representatives of the Philadelphia Hospital Service Association met and passed a resolution urging hospitals to approve this plan immediately, before they had time to study it. Dr. Devereux spoke of a meeting of physicians from this area in Philadelphia and their conclusions. This committee drew up resolutions asking hospitals and staffs to withhold their approval of this plan until it had been studied further. Hospitals make no distinction between a full-pay ward patient and any other ward patient as far as the physician is concerned. This should be clarified and unified. A standard should be adopted by all hospitals, for some full-pay ward rates are higher than the cost of maintaining the beds. Hospitals that refuse to permit their staffs to charge full-pay ward patients will be given an unfair advantage over those that allow their staffs to charge.

The deliberations of the group of physicians were sent to the Philadelphia County Medical Society so that it might know the conclusions reached. Dr. Devereux cited the refusal of the Montgomery County Society to participate in this meeting, but allowed one of its members to sit in. Dr. Devereux asked the Lehigh County Society to send a representative. He insisted that time be given for thorough study of this plan and that it not be allowed to be rushed through.

John B. Klopp reported for the Delaware County society, and George F. Seiberling reported for the Lehigh County Society.

Councilor Buyers commented on the steady and healthy growth of the component county societies, their increased activities, and lay education by radio and by speakers from the county societies for meetings of lay groups. He said: "We would be remiss if we failed to mention the activities of the woman's auxiliaries. They are very active in women's clubs and in all lay activities; they are interested in giving the public the right slant on all health matters by providing speakers from the county medical societies. Right here I want to state that the woman's auxiliaries of Pennsylvania have contributed during the past year \$5500 to the Medical Benevolence Fund of the State Society."

DR. SEIBERLING, Lehigh County: "Mr. Councilor, I move that a rising vote of thanks be given the woman's auxiliaries of the State of Pennsylvania for their generosity to this worthy cause." The vote was unanimous.

Philip J. Lukens reported for the Montgomery County Society: "This society publishes the Montgomery County Medical *Bulletin*, which is run at a profit—thanks to the Woman's Auxiliary who supervise and manage the advertising section. Our editorial committee will not tolerate advertisements in the guise of scientific articles, nor will it permit advertisements to be placed in the information section."

Presentation of Fifty-Year Testimonials

COUNCILOR BUYERS: "Recently, I attended the meeting of the Fifth Councilor District in York. Testimonials were given to men ranging from 62 to 72 years of age, all going strong, which confirms the old saying: 'It is not how old you are, but how old you feel.'"

"We are supposed to honor these men; that should be reversed. They honor us, the State Society, and the community in which they live. By devotion to the ideals and the traditions of medicine they have honored their county and State Society."

Dr. Buyers then read the script on the testimonials and the signatures of the president and the secretary of the State Society and the councilor of the district. The candidates arose as their names were called: Clarence J. Kurtz, Chester County; James T. Taylor, Chester County; George F. Potteiger, Berks County; and Martin J. Backenstoe, Lehigh County.

DR. BUYERS: "Dr. Backenstoe, of Emmaus, was in California at the time I notified these men. Little did I think he would make the trip east for this occasion, but he wrote me that he expected to be present as he was coming home to vote."

DR. BACKENSTOE: "I have retired and live in California. There are other reasons than those mentioned by Councilor Buyers that drew me back East. I was interested to attend the annual meeting of the State Society, to establish my legal residence here to vote, to attend the Allentown Fair, and to attend the fiftieth anniversary of my class at the University of Pennsylvania. When Dr. Buyers wrote me that I was to be honored by the State Society, I was surprised—in fact it was the most pleasant surprise I could dream of. In my entire life I have never had anything that surprised me more agreeably and happily. To me the greatest reward has always been to be appreciated. A grateful patient saying, 'Doctor, I cannot pay the bill, but I want to tell you how much I appreciate your efforts and what you have done for me' has given me more satisfaction than a fee paid without any comment. Another surprise I had while away from here was that Lima, Peru, baby—a child born to a child. I never would have believed that could happen. I first thought the mother was about age 10, but when I saw that she had not shed her milk teeth, I knew she could not be over 6 years. I thank you, Dr. Buyers, and the State Society for this evidence of your kindness and appreciation."

DR. BUYERS: "Frank C. Hammond, whom we always expect at these councilor meetings, cannot be with us this year. In this telegram he sends his regrets and best wishes.

"I present Francis F. Borzell, president-elect of The Medical Society of the State of Pennsylvania."

Is Professional Independence Essential to National Health?

DR. BORZELL: "I congratulate the 4 physicians who are recipients of the 50-year testimonials, also the communities served by them. It is interesting to hear their experiences, for it is these and the traditions of medicine that keep them in practice. A recital of these would be the answer and proofs of my theme. We have traveled through perilous times, and this gathering of physicians is the best evidence of loyalty to organized medicine. This is the largest councilor district meeting that I have encountered in Pennsylvania this year. I congratulate Councilor Buyers on this large attendance.

"Thirty-four years ago I started practice in this section, just 4 miles from here. When I compare the attendance at councilor meetings at that time with today, I can see the great advance in organized medicine. Our leaders have done this; we should be proud of them and should be eager to carry through their future plans.

"There are 16,000 physicians in the State of Pennsylvania; 9000 are enrolled in our State Society. We should have more of them. Many physicians in this state are eligible and are waiting to be approached. We should make a concentrated effort to get them; go out and bring them into our ranks; we need them and their influence if professional independence is to be maintained.

"A summary of the facilities of the A. M. A. shows that our great achievements have been consummated because of definite organization and solidarity of the profession. In Pennsylvania we need more of it because we have had difficulty in combating a certain lethargy in the profession. Lethargy means weakness; it is due to our professional independence or individualism. For power and influence we must relegate our own personal viewpoints to the background and enter into the collectivistic spirit. There is much room for improvement in the organization."

Dr. Borzell spoke of the creation of new committees and commissions in the State Society with similar groups in the county societies. The latest is the newly created Committee on Industrial Health with Charles-Francis Long as chairman. This committee was created to develop a better understanding between industry and the county medical societies.

MEDICAL PREPAREDNESS

Dr. Borzell urged all to fill out and return the questionnaire sent out by the A. M. A., as only by this means can the A. M. A. have a classified roster of the medical profession. "With this personnel information and proper classification of the profession according to special qualifications, drafting and conscription of the profession will be easy; injustices cannot be practiced by the government; communities will be well taken care of—none will be left without a physician as was done in the last war. The government will consult these files supplied by the A. M. A., pick a physician from a community that is well supplied and send him to a community without one; square pegs will not be put in round holes as in the last war; obstetricians will not be assigned to surgery, surgeons will not be made sanitarians.

"The Army and Navy have asked the A. M. A. for this information on physicians, their special qualifications and the like, so that they can decide who shall go

into the service. By looking at a card they can tell what activities any physician is best fitted for. It is incumbent upon us to answer and return this questionnaire; if we cannot accept service, we simply say so, and the government will not call us. It is simply a request for information. The House of Delegates of the A. M. A. pledged the facilities and the resources of the A. M. A. and has urged every state and county society to make good that promise. One is not signing up for military service; it is simply telling them where we fit in the picture. Of the total 16,000 physicians in this state, 6000 have already signed up."

MAINTENANCE OF PROFESSIONAL INDEPENDENCE

"I declare that professional independence is dependent on how we manage our own house. We have been told that our national health is in a deplorable state; we know that national health is only a summation of individual health.

"National health comprises the preventive and the curative forms. The preventive branch is the function of the United States Public Health Service. The trend of this service is toward the expansion of this service encroaching on the activities of the private physician. We approve this service provided it remains in the field where by principle it is best adapted to preventive work—a policing function as it were.

"In the curative branch, the patient-physician unit is the basic principle for the nation. This relation is reflected by the quality of service rendered the individual patient. Mass treatment of patients cannot be efficient or satisfactory. The success of individualistic practice, or the so-called patient-physician relationship is based on a knowledge of the many factors that are involved in illness—the individual's constitution, his emotional and social problems, and his environment. All these must be evaluated in treating the patient. In mass treatment these factors are ignored.

"The ideology of mass treatment is something imported from abroad. It was part of that thinking that led to totalitarianism. We have learned that it has collapsed, yet half-baked sociologists have asked us to accept that ideology and be regimented. In this system the morale of the patient is broken down; he becomes a fit subject for a totalitarian system; he becomes cannon fodder for the dictator.

"If democracy is to be maintained without this ideology, we must maintain our professional individualism; we must stop looking to government for the solution of our ills; we must try to find the remedy within our own ranks. Labor finds itself in a bad fix; it has looked to the government to do this and correct that until it finds that government is exercising unusual control over it. This government intervention and dictation takes away from us our independence to make individual progress.

"There is need for medical preparedness. We are given an opportunity to do it our way; if the government has to do it, it may not be to our liking. It is better to retain that government confidence in us and be masters of our own house."

DR. BUYERS: "Formerly our State Society allocated 1 per cent of its funds for preventive work; last year the society allocated \$20,000 to the disease prevention commissions on pneumonia, diabetes, cancer, and appendicitis. The latest committee is that on Industrial Health. I present the chairman, Charles-Francis Long."

The Present Status of Industrial Medicine in Pennsylvania

Dr. Long spoke of the dearth of well-trained physicians in this field and the growing demand for them in this type of service. He stated that the goal of his committee was to give the best health to the industrial workers in Pennsylvania. The program is to see that the right person is placed in the proper job; to protect the worker from an assignment to a job he cannot handle; and to guard his health by a series of medical surveys—on entering employment, when illness overtakes him, and on his return to work—so that accident cases are skillfully treated and rehabilitation is complete.

Dr. Long presented statistics on industrial establishments in Pennsylvania showing that more than 92 per cent of industries employ 250 men or less. The problem is how to supply physicians to these small industries at a price they can afford to pay, and how this service can be provided ethically and on a business basis that will be satisfactory to both employer and employee. Dr. Long deplored the fact that instruction in industrial health is not given in most medical schools—only 2 in Pennsylvania. The Woman's Medical College gives a very superior course, yet few women are employed in industry.

The physician doing some work in industry should have a knowledge of industrial health; he should have a knowledge of working conditions, sanitation of shops, laws affecting industry, and he should be able to advise employer and employee alike. There are opportunities for trained men in this field.

Dr. Long gave figures on the amount of absenteeism in industry for sickness and accidents. These showed that the greatest loss of time was for the ordinary illnesses, next accidents, and least of all for occupational diseases. Ordinary illnesses, such as acute upper respiratory infections, cause greater time and economic loss than anything else. It is here that pre-employment examination can pick up any contributory factors. Sick absenteeism is robbing industry of much of its profits, and the employer welcomes any means of cutting down absenteeism.

One statement of Dr. Long surprised most of us: The work of the industrial physician must stop at the factory gates.

DR. BUYERS: "No councilor district meeting is complete without Chauncey L. Palmer. Dr. Palmer always has an important message from the State Society, something which sets us thinking. I present Dr. Palmer."

New Health Legislation and the Practicing Physician

Dr. Palmer congratulated Councilor Buyers and the membership on the large turnout. He stated that it was the largest meeting he had attended in 6 years. He thanked the profession for the interest and support it had given his committee, and declared that much more must be done. He spoke of the harm that would come to the State Society if the county societies allowed politics to get into their bulletins.

DR. PALMER: "Currents and cross-currents portend in medicine as in anything else. By watching them one can tell what is coming. The quotation 'Coming events cast their shadows before' applies to what is happening in our State Society today."

THE MEDICAL PRACTICE ACT

"This is the best in the United States today. It has stood the tests in all the courts, from the lowest to the highest tribunals. The act imposes certain qualifications on one beginning the study of medicine; it provides the kind and the amount of study; it sets up certain standards. The State Board of Medical Education and Licensure indicates and demands that these facilities be furnished. The American College of Surgeons and the American Hospital Association make certain rules and establish standards for those who would serve in hospitals. Today there are more applicants for admission to medical schools than can be taken care of. Applicants are gone over with fine-tooth-comb methods. Now we are faced with a dearth of interns to serve in hospitals, because of which and because of the increased work for the interns already in the hospitals, many young people are going in for the cults. Young people must satisfy a yearning for a knowledge of health and medical subjects, and for an interest to treat the sick. All this means an increase in this kind of physician; with this increase goes an increase in pressure exerted by this group on the laws of practice. Our practice laws are definite and clearly expressed, but different legal interpretations on them have been given."

PUBLIC ASSISTANCE

"Complaints from physicians about the prorating of bills come in. There are no chances at present of obtaining more funds for assistance. What shall be our policy toward Public Assistance? Shall we withdraw? Shall we do the work free? Transfer it to the cults? Or shall we continue as we are and retain our leadership? If we relinquish it, we lose our public relationship and permit salaried physicians to do the work. What shall we (our committee) do? We need and want the help of every member of our State Society. No one is completely satisfied with the program. I am not satisfied, but we must strive to maintain the policy of leadership and our principles."

THE PREMARITAL LAW

"We are charged with having put this over. The State Federation of Women's Clubs made 3 desperate efforts to get this through the legislature. It was repeatedly thrown back, and much modified from the original it finally got through. We knew it would not catch all syphilitics, but will it educate the general public to the need of such a law? We supported it. If the applicant does not have communicable syphilis, the application can be signed. The physician should have a proper fee for examination and certification, but he must use his best judgment and treat the applicant for certification as he would any patient. It is a public and legalized service and can be controlled by the state. The Department of Health has set up laboratory standards and procedures and has certified laboratories to do the work. We must be careful in carrying out the provisions of the act, lest we get in difficulty with the law."

WORKMEN'S COMPENSATION

"The workmen's compensation problem has become a partisan issue between political parties; it has also become an issue between labor and capital. We must attempt to have the repealed provisions of the Workmen's Compensation Act restored, and with reason and tolerance; otherwise we will get something irrational and intolerant. We must keep this out of political control."

WARD SERVICE HOSPITALIZATION INSURANCE

"A new hospitalization insurance is being developed for the low-wage worker. Ward patients are no longer called charity patients. This new type of insurance covers full-pay ward service. Hospitals must all agree to the status of a ward patient and his responsibility to pay for full-pay ward service. Many hospitals refuse to permit the staff to charge for any ward patient. This will work to the disadvantage of the hospitals that permit their staffs to charge.

"Nonprofit hospitalization insurance carriers are finding themselves in keen competition with commercial insurance carriers. Gross abuses are creeping into these schemes; subscribers to the semiprivate rooms are admitted to the full-pay services of the wards to the detriment of the attending physician or surgeon, as the hospitals will not permit them to collect a fee.

"We must avoid petty bickerings and do something to retain the spirit on which this country was founded. Paraphrasing the last paragraph of the Declaration of Independence, we must reaffirm and rededicate the spirit of the medical profession—honesty, service, and sacrifice."

DR. BUYERS: "We have with us today Dr. Clay Ray Murray, associate professor of surgery, Columbia University."

The Diagnosis and Treatment of Fractures of the Wrist and Elbow

Dr. Murray stated that the general practitioner could handle 90 per cent of the fractures; then by means of roentgen-ray pictures he showed how to manage some of the remaining 10 per cent.

He mentioned many problems in the treatment of fractures of the wrist and elbow—the maintenance of position, the danger of impaired circulation, the medico-legal angle, nerve damage from improper reduction, edema of the tissues, Volkmann's paralysis, loss of nerve function, the proper indications for pins or wiring when reduction cannot be maintained, and multiple fracture of the epiphysis.

In the region between the elbow and wrist much of the reduction is done by the open method and wiring of the fragments. Some of the operative work is of an emergency character and takes preference over an appendectomy. In some locations with much exudate, delayed drainage and delayed reductions mean a stiffening of a joint or the development of myositis ossificans in an overlying muscle. Then, too, there is danger in keeping the splints on too long. Often immobilization of the parts for 48 hours is sufficient; early mobilization means early return of function. In every section of the forearm a definite technic has been worked out, and this must be strictly adhered to.

A rule that Dr. Murray follows is: Get the patient in a dark room and wiggle the arm. If the displacement does not go back, replace the fragments and wire. Early mobilization is instituted—this by putting the good arm under the underclothes and urging the patient to use the bad arm.

The external appearances of fractures in this region reveal what structures are involved and treatment is based on that. When hemarthrosis is present, the removal of 5 or 10 c.c. of blood will give more relief than a hypodermic of morphine.

When the radial head is completely separated, it should be removed within 8 hours, and mobilization started early. This is an emergency operation. In

epiphyseal separation, one should never operate because of the danger of arresting growth; the same can happen from repeated attempts at reduction. Under age 10 it is hard to get accurate replacement.

In fractures of the bones of the forearm, it is better to operate if the fragments separate; fragments are easily displaced unless wired. In the lower third, one operates on sight and starts mobilization early.

In every sprain of the wrist, look for epiphyseal tenderness. This means that the growing part of the bone has been injured, with a danger of disturbance to growth. This arrest of growth may not appear for 2 or 3 years. An arrest of growth of one bone may be compensated for by removal of the head of the opposite bone.

Fracture of the scaphoid bone heals rapidly—in about 4 weeks. In dislocation of the bones of the wrist there are definite symptoms which should lead to an exact diagnosis; watch for sensory disturbances. In many cases reduction is impossible; removal of the bone is necessary. In the treatment of fractures between the elbow and the wrist, a knowledge of the many problems involved is necessary; unusual judgment and skill are required for a good result.

COMMENT: With all the skill and judgment required today in handling these fractures, we wonder how surgeons in the pre-roentgen-ray era ever prevented permanent crippling of the individual. Has Dame Nature now relegated all the work to man's ingenuity?

WALTER J. STEIN, *Secretary*,
Montgomery County Medical Society.

FIFTH COUNCILOR DISTRICT MEETING

The thirty-fourth annual meeting of the Fifth Councilor District of The Medical Society of the State of Pennsylvania was held on Aug. 22, 1940, at the York Country Club. President W. Newton Long, of York, was in charge of the meeting.

Reports were made of the activities of the component county societies by the district censors, Drs. Harry M. Hartman, of Adams County Medical Society; Newton W. Hershner, Cumberland County; Ambrose W. Thrush, Franklin County; C. Howard Witmer, Lancaster County; Walter H. Brubaker, Lebanon County; Robert R. Stoner, Perry County; Francis R. Wise, York County; Trustee and Councilor Park A. Deckard reporting for Dauphin County Society.

At this point in the program Dr. Long appointed the following nominating committee: Drs. C. Howard Witmer, Lancaster, chairman; Harry M. Hartman, Adams County; Harvey F. Smith, Dauphin County; Walter H. Brubaker, Lebanon County; Robert R. Stoner, Perry County; Francis R. Wise, York County; Ambrose W. Thrush, Franklin County; Newton W. Hershner, Cumberland County. They nominated the following officers for the ensuing year: President, Robert D. Swab, M.D., Lancaster County; secretary and treasurer, Raymond M. Lauer, M.D., York County. A vice-president was elected from each of the component societies: Drs. Roy W. Gifford, Adams County; C. Richard Brandt, Cumberland County; William K. McBride, Dauphin County; Joseph C. Hudson, Franklin County; Jerome S. Kendig, Lancaster County; Robert M. Wolff, Lebanon County; J. Edward Book, Perry County; W. Newton Long, York County.

Dr. Long then gave a historical sketch of the Fifth Councilor District meetings, mentioning the various dis-

tinguished speakers and officers. He mentioned the growth of these meetings and the progress made by the component medical societies.

Donald B. Stouffer, M.D., Hershey, a member of the State Society's Committee on Industrial Health, read an interesting paper on "Industrial Medicine—A Pressing Problem for All Physicians." He advised appointment of similar committees in all county medical societies.

"Preventable Deaths Among Youth Groups Affected by Acute Appendicitis" was the subject discussed by Harvey F. Smith, M.D., Harrisburg, a member of the State Society's Committee on Acute Appendicitis Mortality. Dr. Smith spoke feelingly of the facts disclosed in the committee's recent survey on the results in 20,000 operative appendicitis cases in nearly 200 hospitals throughout the state, as published in the May PENNSYLVANIA MEDICAL JOURNAL. He brought home to the audience of Fifth Councilor District physicians the fact that the district stood next to the highest on the list of mortality records uncovered in the analysis of the survey, attributing this to the need for further instruction of high school pupils in the district concerning the great danger, in the presence of pain in the abdomen, from the administration of laxatives or delaying needed medical advice. He climaxed his presentation by demonstrating a swollen, gangrenous, but unruptured appendix removed 2 hours previously from a woman patient who had been promptly hospitalized with no symptoms or signs whatsoever, nor laboratory findings remotely suggestive of an acute appendiceal condition, except abdominal pain.

Dinner was served to 127 physicians and guests. After dinner the program was in charge of Park A. Deckard, M.D., trustee and councilor.

Framed testimonial certificates were presented to the following physicians who have been in the practice of medicine 50 years: Drs. Edward M. Green and William H. West, Dauphin County; Ambrose W. Thrush, Franklin County; Sylvester Ulrich and John L. Winters, Lancaster County. Dr. Thrush responded in interesting fashion.

After this presentation, messages were delivered by representatives of The Medical Society of the State of Pennsylvania.

Charles H. Henninger, M.D., president, spoke on "Medical Military Preparedness." He urged especially that a committee of 3 members be appointed in each county society to assure intelligent consideration of the local needs as well as those concerned in national preparedness.

"Activities of The Medical Society of the State of Pennsylvania, Present and Future" was the topic discussed by Francis F. Borzell, M.D., president-elect.

Walter F. Donaldson, M.D., secretary of the State Society, urged that all members of the component county societies be closely bound together like "A Rock," resisting the storm which has gathered after long-continued and widely publicized endeavors to regiment the practice of medicine. He referred to the coming court trial in Washington which will afford the public opportunity to hear for the first time the profession's side of the indictment of the American Medical Association for alleged "conspiracy in restraint of trade."

Several new state laws directly affecting practitioners were discussed fully and impressively by Chauncey L. Palmer, M.D., chairman of the State Society's Committee on Public Health Legislation.

Following brief remarks by Edgar S. Buyers, M.D.,

chairman of the State Society's Board of Trustees, the meeting was open for discussion from the floor.

During the morning the woman's auxiliaries of the Fifth Councilor District had their meeting, with 40 members and guests present. The presiding officer was Mrs. Norman H. Gemmill, Stewartstown, district councilor, assisted by Mrs. Elwood P. Flanders, president of the Auxiliary to the York County Medical Society. Guest speakers were Mrs. John H. Doane, of Mansfield, president of the State Auxiliary, and Drs. Henninger, Borzell, Deckard, and Donaldson.

RAYMOND M. LAUER, *Secretary*.

TENTH COUNCILOR DISTRICT MEETING

The Tenth Councilor District meeting of The Medical Society of the State of Pennsylvania was held at Pittsburgh on July 17.

Clinics began at 9 a.m. as follows: "General Surgery," John P. Griffith, M.D., professor and head of the Department of Surgery, University of Pittsburgh, held at the Mercy Hospital; "Management of Diabetes," George Booth, M.D., medical director, Renziehausen Memorial Fund, held at the Western Pennsylvania Hospital; "Dermatology and Syphilology," William H. Guy, M.D., professor and head of the Department of Dermatology, University of Pittsburgh, held at the Falk Clinic.

Robert L. Anderson, M.D., Pittsburgh, trustee and councilor of the Tenth Councilor District, was in charge of the formal program which was held at Webster Hall at 11 a.m.

"The Present Status of Industrial Medicine" was presented by Nathan A. Kopelman, M.D., New Kensington, a member of the State Society Committee on Industrial Health. Dr. Kopelman emphasized the necessity of encouraging industry to look to a wider distribution of industrial health management, particularly in small industries. There is need, he said, for improving the training of the physician along industrial health lines and for encouraging large industries to establish fellowships for the training of their industrial health leaders, thus making of the industrial physician a respected specialist. The field of industrial medicine should be limited to that of a health officer for his plant, responsible only for preventive medicine and industrial hygiene and not therapy or treatment of the employees. This is a function of private practice. Efforts of the worker and the family physician for the correction of physical defects uncovered by examinations in the plant will have beneficial results to all concerned. Deviation from this principle on the part of the physician in industry is unfair and constitutes the major reason for industrial medicine's low estate. Both industry and labor must be taught what a reasonable number of employers and employees already know; namely, that the proper application of industrial medicine is not only a sociologic advance but a definite economic saving to both.

A "Report of the Commission on Diabetes" was given by J. West Mitchell, M.D., Pittsburgh, Tenth Councilor District representative of the State Society Commission on Diabetes. The Commission on Diabetes and its subcommittees have worked continuously throughout the past year. The Subcommittee on Education has written a series of concise and authoritative articles on diabetes which have appeared in recent issues of THE PENNSYLVANIA MEDICAL JOURNAL under the title of "Primer on

Diabetes." The Subcommittee on Visual Education has produced a 700-foot film in color dealing with the education of the diabetic patient. The Subcommittee on Standardization of Hospital Forms has completed a comprehensive hospital form for diabetes. In the course of time each hospital will receive a sample for future guidance, if they so desire, and an invitation to consult the committee on any questions referable to hospital diabetic forms. The number of postgraduate lectures, county society lectures, and hospital conferences on diabetes mellitus has definitely been increased. This change has occurred because of the increase of consciousness in reference to diabetes mellitus on the part of physicians throughout the state.

Some observations on the Pennsylvania survey of acute appendicitis mortality were presented with a lantern slide demonstration by John O. Bower, M.D., chairman of the Commission on Acute Appendicitis Mortality of the State Medical Society. Dr. Bower reviewed briefly the commission's report published in the May issue of the JOURNAL. He emphasized the fact that, in the past, individual and hospital mortalities have not been made known and will not be in the future. Councilor district and state mortality rates are published in order that each district may know just where it stands. Campaigns can then be conducted to lower that mortality. Unfortunately, the Tenth Councilor District has the highest mortality in the state. The following facts were discussed more fully with the hope of helping to discover the causes of the very high mortality which exists in several districts (see Table IX, page 1172, May JOURNAL):

1. The absence of an extensive educational campaign, particularly as it relates to the high schools. Allegheny County has the largest number of high school students of any of the 67 counties, not excluding Philadelphia. These high schools, with very few exceptions, have not heard the appendicitis talks or been given the warning stickers. These talks emphasize the grave dangers of delay in hospitalization and the administration of laxatives in the presence of acute abdominal pain.

2. The drainage of the protective exudate from the peritoneal cavity of patients with unruptured appendices.

3. The high mortality of cases of spreading peritonitis which were closed without drainage—58.73 per cent.

4. The very high mortality of the hyperacute perforated appendix, that is, the appendix that ruptures on removal and is not drained—82.86 per cent.

5. The part catastrophes play in the mortality of acute appendicitis. Dr. Bower differentiates between the avoidable and unavoidable catastrophe (see report, page 1167, May JOURNAL).

Plans are under way to inaugurate an intensive prophylactic educational campaign under the chairmanship of John P. Griffith, M.D., professor of surgery, University of Pittsburgh Medical School, to reduce the high mortality.

Luncheon was served from 12:15 to 1 p.m. The invocation was given by the Rev. C. Marshall Muir, pastor of the Bellefield Presbyterian Church.

After lunch two-minute reports of county society activities were given by District Censors David P. McCune, M.D., McKeesport, for Allegheny County; J. Howard Swick, M.D., Beaver Falls, for Beaver County; John Foster, M.D., New Castle, for Lawrence County; and Thomas St. Clair, M.D., Latrobe, for Westmoreland County.

Fifty-year testimonial certificates from The Medical Society of the State of Pennsylvania to the physicians

of the Tenth Councilor District in practice 50 years or more were presented by Charles H. Henninger, M.D., president of the State Society, to the following physicians:

ALLEGHENY COUNTY

William W. Blair, 51 years; Louis C. Botkin, 59 years; Anthony J. Boucek, 50 years; William T. Burleigh, 56 years; Harry E. Clark, 52 years; Ewing W. Day, 51 years; Theodore Diller, 54 years; Joseph M. Douthett, 50 years; John A. Hagemann, 56 years; Christian Hager, 55 years; John C. Hierholzer, 52 years; Herbert J. Hopkins, 52 years; Henry A. Hutchinson, 62 years; James P. Kerr, 52 years; Logan M. Kifer, 62 years; Edward C. Lewis, 59 years; Edward P. Logan, 54 years; James M. McNall, 50 years; Samuel McNaugher, 51 years; Elizabeth C. Mallison, 53 years; William N. Marshall, 56 years; John D. Milligan, 64 years; Seymour B. Moon, 50 years; Elmer E. Neely, 51 years; James A. Potts, 59 years; John Purman, 59 years; Israel Bebout Reed, 54 years; William W. Sturgis, 53 years; John M. Thorne, 54 years; Thomas Turnbull, Jr., 53 years; Albert T. Zeller, 51 years.

BEAVER COUNTY

James S. Louthan, 58 years; John J. Wickham, 55 years.

WESTMORELAND COUNTY

Louis J. C. Bailey, 52 years; Walter H. Brown, 51 years; Simon P. Earnest, 50 years; Daniel M. Easter, 52 years; Martin E. Griffith, 55 years; Harry F. Kimmel, 52 years; Daniel I. Leatherman, 54 years; Robert P. McClellan, 52 years; Carroll B. Rugh, 55 years; John S. Silvis, 50 years; Ross H. Speer, 53 years; Joseph C. Stahlman, 53 years; William H. Taylor, 56 years.

The response was made by John M. Thorne, M.D., Pittsburgh.

Mrs. Howard A. Power, Pittsburgh, district councilor of the Woman's Auxiliary for the Tenth Councilor District, introduced Mrs. Maxwell Lick, Erie, president-elect of the State Auxiliary, after which the ladies retired to an adjoining room for the auxiliary program.

At this point in the program, Chauncey L. Palmer, M.D., Pittsburgh, chairman of the State Society Committee on Public Health Legislation, was scheduled to speak on the subject, "New State Laws Directly Affecting Practitioners." However, he was unavoidably detained at another meeting. When he arrived it was too late to present a formal talk, but he conducted an interesting and well-attended round-table discussion.

The scientific program began at 2 p.m. with the reading of a paper entitled "The Treatment and the Progress of Diabetic Children," by Henry J. John, M.D., Cleveland, Ohio. Dr. John made a plea for the broad, humanitarian view of the problem of the diabetic child. He stressed the character building necessary. Insulin is lightening the load on the patient, the parents, and physicians. The diabetic child is proving the case of modern therapy. Dr. John suggested the use of standard insulin until hospitalization has equalized metabolism. Then he recommended a change to protamine zinc insulin. Diet should be adequate, satisfying, and balanced in all the essentials. Dr. John discussed the treatment of shock, coma, and infection. He emphasized the necessity of vigilance and constant care.

"Clinical Manifestations of Syphilis with Suggestions on Treatment" was the title of a paper presented by William H. Guy, M.D., professor and head of the Department of Surgery, University of Pittsburgh. Dr. Guy discussed in detail the various clinical manifestations of syphilis and outlined the latest accepted methods of treatment. His paper was vividly illustrated with natural color slides.

The meeting adjourned at 5:00 p. m.

The auxiliary program was held at 2 p. m. in Webster Hall, Pittsburgh. Mrs. Howard A. Power, district councilor, presided. A welcome was extended by Mrs. Jay G. Linn, president of the Woman's Auxiliary to the Allegheny County Medical Society. "Relations of the Councilor District to the State Medical Society" was given by Charles H. Henninger, M.D., Pittsburgh, president of the State Society. Presidential reports were heard from the following component county auxiliaries: Allegheny, Beaver, Lawrence, and Westmoreland.

An address followed by Mrs. Maxwell Lick, Erie, president-elect of the State Auxiliary. A report on the program of the Woman's Auxiliary to the American Medical Association was given by Mrs. Walter F.

Donaldson, Pittsburgh, chairman of the Committee on Program, National Auxiliary.

"Public Relations Activities of the State Medical Society" was given by Frederick M. Jacob, M.D., Pittsburgh, chairman of the State Society Committee on Public Relations and president of the Allegheny County Medical Society.

"Latest Project for the Care of Convalescent Cardiac Children in Allegheny County 'Heart House'" was given by Miss Martha Leslie, Pittsburgh, executive secretary of the Child Health Division, General Health Council of Allegheny County.

Representatives from the Woman's Auxiliary to the Allegheny County Medical Society were in the lobby of Webster Hall throughout the morning to take out-of-town guests on tours of the nearby Cathedral of Learning and other campus buildings of the University of Pittsburgh. (The Carnegie Art Galleries and Mellon Institute are nearby.)

The ladies joined the physicians for luncheon at 12:15 p. m. at Webster Hall and remained for the luncheon program, adjourning to another room for their own program just before the afternoon scientific program began.

WOMEN'S DRESS A FIRE HAZARD

"Safe as at home" is an old saying, but more accidents happen in the home than in a factory. According to statistics, the home bathtub is a thousand times more dangerous than a railway train and 200 times more dangerous than a flight in a passenger plane.

A large number of women each year in the United States die victims of feminine fashion in dress, for women's clothing is unfortunately a definite fire hazard which men, with their closer fitting and heavier garments, escape. Burns sustained in ordinary home activities cause the death of about 1600 women over age 15 in the United States each year.

These statistics, given by the Metropolitan Life Insurance Company, include deaths from the use of inflammable liquids for kindling fires, for dry cleaning, and other purposes; it also includes deaths through the clothes of women catching fire as they warm themselves near open fires or hot stoves. Presumably these figures are fairly representative of corresponding conditions throughout the United States, more particularly in urban districts.

Almost one-half of the deaths were attributable to stoves and grates. Typical examples in this class were the following: A woman used her apron as a holder in removing a pot from the top of a stove, and in doing so set the apron ablaze; a woman backed into an open grate and ignited her clothes. A surprising feature about these accidents is that so many occur, not while the woman is actually at work over the stove or attending to it, but while she is engaged in other activities.

In not a few cases the injured person was suffering from some physical ailment that brought about the accident. Some of them fell on hot stoves when overtaken by dizziness or a fainting spell, heart attack, or apoplectic stroke.

Despite this frequency of fire hazards among women, the case is not quite so bad. The trend of the death rate from burns among women has been downward for

some time, according to the Metropolitan Life Insurance Company. The modernization of the American home has much to do with it. Oil lamps have become a rarity in many places, and gas for illuminating purposes equally so, having given place to the comparatively innocuous electric light bulb. The modern methods of treating burns have saved many lives, and credit should be given also to the efforts of educating the public about fire risks.—Editorial, *Medical Record*, Aug. 21, 1940.

MEDICALLY PRESCRIBED CONTRACEPTION

The comparison of 25 criminal abortions after use of scientific contraception with 127 before, in a group of 500 private cases, indicates the ability of medically prescribed contraception to decrease the number of criminal abortions to one-fifth, with subsequent prevention of maternal ailments and possible sterility, Marie Pichel Warner, M.D., New York, declares in *The Journal of the American Medical Association* for July 27 in an analysis of the cases. The majority of abortions occurred in married women, she says.

The women in the group were of middle-class New York City families of different religious denominations. All but 3 of them were white. Half of the group, Dr. Warner reports, stated that inadequate income was their main reason for wanting to avoid further pregnancies. "The majority of women," she continues, "sought contraceptive advice during the first year of marriage, the remainder from one to 30 years after marriage. The trend among the younger group is toward obtaining contraceptive advice premaritally. Every 'premarital' couple, of which there were 132, expressed the desire for offspring in the future. They felt the need for temporary contraceptive advice and wanted assurance the method would not cause sterility."

TUBERCULOSIS ABSTRACTS

A Review for Physicians

PREPARED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

Published through the co-operation of the Pennsylvania Tuberculosis Society
and The Medical Society of the State of Pennsylvania

THE thirty-sixth annual meeting of the National Tuberculosis Association held in Cleveland, June 3 to 6, 1940, was characterized by a spirit of optimism based on the confidence that the control of tuberculosis is on the way to being achieved. Delegates were reminded, however, that before the goal can be reached, certain wide gaps in the program of research, case-finding, and the provision of treatment facilities must be closed. There is as yet no specific cure, no dependable vaccine; chemotherapy offers scant encouragement; case-finding is still too haphazard, and at least 60,000 more beds for the tuberculous are needed. An excellent background for the detailed discussions which took place in the various sections on these and other subjects was sketched by Henry D. Chadwick in his presidential address, which here appears in condensed form.

SUBJUGATION OF TUBERCULOSIS

One of the great achievements of the twentieth century will be the subjugation of tuberculosis. We are far enough along in the campaign that started when the National Tuberculosis Association was organized 36 years ago to be quite certain that eventually victory will be won. We must not be too complacent, however, as we are dealing with a very resourceful opponent who will take advantage of any weakening of our defenses to make a counter attack.

In the early days of the association the stress was put upon treatment, later on prevention, then on health education and on case-finding—these four together with research make up the forces that under one co-ordinated command are now in the field doing valiant work against the disease. Much has been accomplished. The death rate has dropped 76 per cent in 40 years. We must not be content with what has been accomplished. We have far to go before our objective is gained. Sixty thousand lives a year even now are taken by the tubercle bacillus.

The tuberculosis mortality dropped 33 per

cent and 32 per cent respectively in the past 2 decades. Let us assume, therefore, that this average decline of approximately one-third every 10 years can be maintained. In that event, the tuberculosis death rate would be 32 in 1950, 21 in 1960, 14 in 1970, and 40 years from now in 1980 a rate of 9 or 10 may be anticipated. The bells that ring in the year 2000 may sound the death knell of the tubercle bacillus.

The federal Department of Agriculture has led the way in a successful campaign to eradicate bovine tuberculosis. The success of the agriculturists is due to their persistence along one line—a direct attack on the bacillus and giving no quarter, although this involves the destruction of the host.

Our problem is more complex. We can search out the bacillus, but when found we cannot destroy the carrier. We must temporize, we must educate, and by slower methods of prevention try to protect others. We attempt to cure, often succeed, and so do much to limit the spread of infection. The slaughter of human beings on

the pretext of affording them protection is deemed illegal, and outside of modern warfare that measure is barred. The substitute is segregation in institutions. My plea, therefore, is for more beds—one for every tuberculosis patient who should have one.

How many beds should we provide to meet this need? There are 732 institutions listed in the 1938 sanatorium directory with a capacity of 90,000 beds. This is approximately $1\frac{1}{2}$ beds per annual death. It has been shown that a minimum of 2 beds for each annual death is needed where a good case-finding program is carried on and well-equipped institutions are available. Thirteen states have exceeded this quota and 4 have as many as 3 beds per death. Far down the list are 14 states that have not provided even one bed per death. The tuberculosis death rates in 13 of those states exceed the average for the country as a whole. The National Tuberculosis Association through its affiliated state organizations should wage a persistent campaign for more sanatoria in these states to bring them up to the minimum standard.

The number of beds needed in a state or community can be computed quite accurately by multiplying the number of annual deaths by 10 and dividing the result by 4. There are 10 active cases of tuberculosis for each death and 25 per cent of them need and will accept institutional care. This has been the experience where good case-finding programs are carried out and well-conducted institutions are available to the patients.

Applying our formula to the United States, to find the number of active cases of tuberculosis, we multiply the 60,000 deaths by 10 and the result is 600,000, which is approximately correct. The 25 per cent that will accept and need hospitalization would require 150,000 beds. There

are now but 90,000, which means that 60,000 more beds are needed to provide a full complement.

Many additional beds for tuberculosis patients placed where most needed should be the No. 1 item on our agenda. Health education as it applies to tuberculosis is item No. 2. So familiar to us are these matters of what ought to be common knowledge that we deceive ourselves and erroneously believe that our teaching has accomplished its purpose and that the people as a whole are well informed. We must not jeopardize our favorable position through overconfidence. With the weapons now at our command wielded by the agencies now in the field working in close harmony, we may expect continued progress toward our goal.

The ultimate surrender of the tubercle bacillus, however, is 2 generations away unless new developments in treatment come to our aid. This may be brought about more quickly by discoveries made in the fields of chemotherapy and nutrition. Research in both of these fields is yielding rich returns.

While the chemists of various types and interests are delving in their laboratories, we plodders in the broad fields of physics and education must continue to use the methods that have proven sound and true. Yet we must be alert and responsive as new procedures are developed, change our tactics if necessary, and vary our course to keep pace with the changing times.

With all the research work being carried on, sooner or later a discovery should be made that will revolutionize the treatment of tuberculosis. I have faith that this will come to pass.

Presidential Address by Henry D. Chadwick, M.D., Thirty-sixth Annual Meeting of the National Tuberculosis Association, Cleveland, Ohio, June 3-6, 1940.

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, *Secretary*

8104 Jenkins Arcade

Pittsburgh, Pa.

WILL THEY GIVE IT BACK TO THE INDIANS?

The 1940 House of Delegates of the American Medical Association by its official action at the New York session, while giving unrestrained and complete support to federal requests for assistance in the prompt development of adequate national defense, *at the same time went on record for return to traditional private practice relationships as soon as possible after the passing of the then alleged threatening emergency.*

In the meantime since mid-June, while the A. M. A. and every state and county medical society in the nation is thus spending freely of its funds and the energies of its members, the familiar propaganda by radio from alleged collectivists in the Nation's Capital *continues the personal opinion and misleading implication to the effect that the United States of America, extensive in size and with polyglot population, has, throughout the past 2 decades, been everything but that which it really is—the healthiest large nation on the face of the earth.*

If you now believe that the advocates of socialized and centralized medicine are at present innocuous because of the furor over national defense preparation, please read every word of the following "manuscript" of a broadcast sent out over WJZ and the Blue Network Aug. 21, 8 to 8:30 p. m., E. D. S. T., by the United States Department of the Interior, Division of Information Radio Section.

You will note that the broadcast touches on the governmental medical treatment, in a very personalized fashion, *of cancer coming to the hospital 2 or 3 years too late; or of death after 72 hours of screaming labor pains; or again of related tragic experiences in silicosis and the usual carefully dramatized references to family tragedies,* allegedly dependent upon nothing but a dearth of facilities for diagnosis and treatment and the lack of good physicians.*

* See "testimony" of Mrs. Willis, Mr. Thomas, Mrs. Kolowski, and the narrator.

UNITED STATES DEPARTMENT OF THE INTERIOR

Division of Information

Radio Section

109713

WJZ and Blue

8:00-8:30 p. m., EDST

August 21, 1940

"THIS, OUR AMERICA"

Program 8

"Health and Education"

ANNOUNCER: As the nation turns to its defense, the National Broadcasting Company in co-operation with the National Resources Planning Board presents the eighth program in the series, This Our America, in order that you and I may know exactly what resources we have in order to defend our shores.

2ND ANNOUNCER: Tonight, This Our America tells you where we stand in regard to:

VOICE: Education and health in America!

MUSIC: Sneak Under.

NARRATOR: Since Thomas Jefferson, America has wished to provide a free and progressive education for every person in the land. It is a far cry from the little red schoolhouse of 75 years ago to the quarter of a million elementary schools and the 29,000 high schools—

JOE: (*Interrupting*): Hello, remember me? Joe, the average guy?

2ND NARRATOR: Glad to see you here again, Joe!

JOE: I know I interrupted you fellows, but I just had to. You were going to tell us the number of schools and colleges and the number of pupils and the number of teachers?

2ND NARRATOR: Yes, we were.

JOE: But we know we got a lot of schools. And we've never complained about paying taxes for them so that our kids could get a decent education. Yeah, we know all that. But—

1ST NARRATOR: But what, Joe?

JOE: I've been doing some thinking about what it means to be educated in 1940. I'd like to shoot off my mouth about it.

2ND NARRATOR: This is your program, Joe—not ours. Go ahead.

JOE: Well, if I had a kid what would I like to have him taught besides the regular things all kids are taught in school? It seems to me 3 things have to be taught—it seems to me they're more important than anything else right now.

2ND NARRATOR: What are they, Joe?

JOE: First, I keep asking myself: Are the kids in school, are the boys and girls in college—are they being taught to *think*?

NARRATOR: What do you mean, Joe?—think?

JOE: Well, you pick up a half a dozen papers—you can get a half a dozen points of view about anything happening today—you listen to the radio—one guy says one thing, one guy says another—or take short wave—one side tells you they're right—the other side tells you the opposite. All the education in the world isn't going to do any good unless a fellow can take all these points of view and—and iron 'em out in his mind—and—and know propaganda from the real McCoy—unless he can find the facts and come to his own opinion first hand. That's my idea of what I'd teach my students if I were a teacher.

2ND NARRATOR: Joe, what you're asking for is to teach—judgment?

JOE: That's it! Judgment! Otherwise, anybody can come along and fill us with a bunch of half-baked notions and we accept them . . . and haven't any minds of our own. Well, you're the boys with the facts. Tell me, are the young folks—the ones who'll have to do the work and the fighting to defend us—are they being taught to judge for themselves in this cockeyed world?

NARRATOR: Yes, Joe—

JOE: How?

NARRATOR: All sorts of ways, Joe. By discussion groups, by debates, by forums, and by courses especially designed to make people form individual judgments.

JOE: OK then.

2ND NARRATOR: Go on, Joe. What's the next thing you think makes for a real education?

JOE: Well, a fellow's got to be taught *what* he's defending. Dates in history classes are ok by me; who was Pocahontas and what famous words did Nathan Hale say, that's ok, too. But more than that, kids should be taught *what* it means to be an American. They ought to be taught how words like freedom and liberty are more than just high-sounding words; kids ought to be taught *what* in their own lives, from the time they brush their teeth in the morning till the time they say their prayers at night, brings them this freedom. Well,—are our educators teaching them *what* we are defending?

NARRATOR: Yes, Joe. I think so . . .

JOE: How?

NARRATOR: All over the country, Joe, teachers are putting more emphasis on what America *means* than on what America has *done* historically in the past. Students are taught today exactly what the Constitution means—the right to choose your own representatives and your own Senators and your President; the right to speak freely and the right to print your ideas and the right to worship as you see fit. Educators realize today that a student must be taught what security means, security to work, to be healthy, to live a better life in every way. That's how students are being taught what they're defending.

JOE: That's swell!

2ND NARRATOR: Go on, Joe. What's next on your little list?

JOE: Well, we're going to need a lot of industrial workers—

NARRATOR: I see what you're driving at, Joe. Vocational training?

JOE: Yeah.

2ND NARRATOR: The President has given Mr. Hillman of the Defense Commission the job of seeing to it that young men and women are trained to become skilled workers in many fields. All over the country new vocational schools are being opened to teach crafts to thousands of enrollees. We're making great progress.

JOE: Well, then, I'm satisfied. Only there's one thing more that I think educators ought to be doing.

NARRATOR: What's that, Joe?

JOE: Well, we got to lead the world in science. We got to know how to make the finest machines for defense. And we got to use science so that after this defense program is over, we can go on living better—better homes, better soil, better food—better everything in America. That means we got to have men who know about—well, about complicated things—like trade—and—and—economics—and giving everyone a break. That means we got to have our colleges educate men to become leaders, doesn't it?

2ND NARRATOR: Well, 98 thousand college teachers in this country—and that's an awful lot of college teachers, Joe—have just those things as their aim.

JOE: Then I feel ok! If a guy is taught to think clearly, to think for himself; if he's taught what he's defending; if he wants to work in industry to help defense and there are schools to teach him how to work; and if colleges educate men to be leaders of the people—that's what education means to me in 1940!

NARRATOR: And to all of us, Joe. And that's just what we're doing.

JOE (*With an amused sigh*): Gosh, I've certainly been talking a lot. . . .

2ND NARRATOR: Then suppose we talk about *you*, Joe.

JOE: Me? Say, you're wasting good radio time talking about me. I'm just a minnow in the pond. What's important is what resources and how many resources this country needs—

NARRATOR: We know all that, Joe. But no resource is as important as you.

JOE: I don't get you.

NARRATOR: You're the greatest single resource in America. You're a living human being. You think the thoughts, you dream the dreams, you put them into effect. You *are* America—132 million Joes.

JOE: Say, I guess you got something there. . . .

2ND NARRATOR: You bet we have! And since you're the greatest single resource of America, it's vital that you learn how healthy you are.

JOE: Me? I'm in fine shape.

NARRATOR: But how about the other Joes in the country? Total defense depends on men like you. The men and the women who work in the fields and in the factories; the men in the Army and the Navy?

JOE: Then let's have the lowdown. Where do we stand on health?

NARRATOR: Part of the story, Joe, isn't pretty. Suppose we tell you the bright side first.

MUSIC: Sneak Under.

NARRATOR: In the last 50 years, we have made amazing gains!

VOICE: Yellow fever has been completely wiped out. . . .

2ND VOICE: The plague has been completely wiped out. . . .

3RD VOICE: Not so long ago, tuberculosis was the fourth most deadly disease in the United States. Today it has dropped to seventh place. Even in the past year this disease has declined almost 5 per cent.

4TH VOICE: There has been an amazing decrease in the number of infant deaths.

VOICE: Today scarlet fever and diphtheria, malaria and pellagra, typhoid and infantile paralysis are the lowest on record.

2ND VOICE: Our death rate is progressively lower each year. And less people died in the United States in 1938 than in any year before.

3RD VOICE: We have the greatest hospitals in the world. Institutions like Johns Hopkins, the Mayo Clinic, the Presbyterian, Bellevue, Trudeau Sanatorium, the Massachusetts General Hospital are without peer in the world.

4TH VOICE: There are almost 170,000 physicians in the United States. There are over 200,000 nurses in the United States.

VOICE: Every year 5000 young men and women take the oath of Hippocrates to save the lives of their fellow Americans.

2ND VOICE: With all these doctors, nurses, hospitals, and with such medical inventions and discoveries as sulfanilamide—the iron lung—vitamin concentrations—the bronchoscope—there is no reason why America should not become the healthiest nation on the face of the earth!

NARRATOR: Sounds good, doesn't it, Joe?

JOE: I'll say! But let's have the catch to it—

2ND NARRATOR: What do you mean, Joe?

JOE: I know you boys by now. You don't pull any punches. Where's the rub?

2ND NARRATOR: Joe, if these were normal times we live in, we could take up our health problems one by one and over the next 25 years solve most of them. But these are not normal times. Just as we are doubling and tripling our industrial expansion, and rushing our plans for armaments, so we must double and triple our fight for life. We can't afford to wait 25 years to solve these problems.

JOE: What problems?

NARRATOR: Well, here's one: Each year one million Americans die who could be saved.

JOE: No!

MRS. WILLIS (*Listlessly*): Yes, Joe. What this gentleman just said is right.

2ND NARRATOR: Hello, Mrs. Willis. Glad you could come.

MRS. WILLIS (*She has a slight southern accent. Her voice is middle-aged*): I want the folks out there to know. I think they have a right to know.

NARRATOR: Suppose you tell your story, Mrs. Willis.

MRS. WILLIS: Henry—he was my husband—Henry and I lived in the South. We lived in a little frame house; had a few chickens; a little truck garden. Henry didn't make much money. Three years ago he took sick, real bad. He'd walk around, all twisted with pain.

2ND NARRATOR: Were there doctors in your neighborhood?

MRS. WILLIS: There were doctors. Henry went to every doctor in the county. He couldn't blame the doctors. The doctors didn't make much more money than Henry did. They didn't have all those expensive machines to tell what ails a person. But they all looked at him and said it was his liver. They used to give him medicines until our bathroom shelf was just piled with medicine bottles. But it didn't help Henry. The pain got worse. He took to bed. Finally he couldn't stand the pain. We didn't have no car and I knew that I should have taken him to a hospital long before

this—a big hospital where they had those expensive machines and real big doctors they call—

NARRATOR: Specialists.

MRS. WILLIS: Yes, specialists. But the nearest real big hospital was 300 miles away. We didn't have the money to get him there.

JOE: Wait a minute. You mean to say the nearest hospital was 300 miles away?

MRS. WILLIS: Yes, young man. When Henry took to bed and was yelling with pain, I got really scared and I called in my neighbor. He was an undertaker, Jim was. I asked him to drive Henry up to this big hospital in his—in his—(*takes deep breath for control*). That was the only way to get him there—Henry lay down in it all the way to the hospital—When we got to the hospital, Jim and me sat in the waiting room while they examined Henry. We waited a long time.—

NARRATOR: What did they tell you?

MRS. WILLIS: They didn't say at first. They asked me how long Henry'd been like this. And I said 3 years. And they asked me why we brought Henry to the hospital only now after 3 years. I told them how we didn't have any hospital where we come from. I told them how Henry used to sometimes walk 3 miles to the nearest doctor and no doctor knew what ailed him. Then the doctor told me what was the matter with Henry. He said it was—cancer.

JOE: Gosh . . . That's tough! . . .

MRS. WILLIS: Yes, young man. And they couldn't do anything for him now. The doctors said we'd brought him here 2 years too late. They said that 2 years ago had there been a hospital close to where we come from, he might have been cured . . . so we took Henry back. The ride was too much. He died in the hearse before we got home.

NARRATOR: Thank you, Mrs. Willis.

2ND NARRATOR: The disease that took your husband, Mrs. Willis, need not kill if discovered in time. If in every state, cancer centers were built and equipped; cancer centers in each state where anyone, rich or poor, could be assured of treatment. . . .

MRS. FOSTER: How well I know that!

NARRATOR: Why, hello, Mrs. Foster. Glad you could come. I wish you'd tell your story.

MRS. FOSTER: When I discovered the lump in my breast, I went right to the New York State Tumor Clinic in Buffalo which was only 20 miles away. They told me it was cancer. They told me I came in plenty of time. They said radium. I had no money for radium, but they gave it to me free of charge. For 2 years I kept coming back for treatments and I'm all right now. There's no reason why everybody shouldn't have a place like that to go to in every state in the Union.

2ND NARRATOR: Thank you, Mrs. Foster.

NARRATOR: Suppose we listen to what the National Resources Planning Board has to tell us:

VOICE: "Preventive health services for the nation as a whole are insufficient. Hospital and other institutional facilities are inadequate in many communities, especially in rural areas. Financial support for hospital care and professional services is not enough, particularly for people of the lower income groups."

JOE: Let's see if I get this straight—there are too many places in this country that haven't hospitals close by and should have them?

NARRATOR: Every year, Joe, cancer and heart disease are the 2 principal causes of death. Since we need all the man power we can muster in times like these, should we not prevent many of these deaths through adequate

hospitals and clinics open for rich and poor alike?

2ND NARRATOR: And that's only the first problem, Joe. Here is the second:

VOICE: Each year about 14,000 women die from causes connected with pregnancy and childbirth.

JOE: Say, that's fierce!

THOMAS (*He is very young and hesitant*): Yes, it is.

NARRATOR: Glad you could come to tell us your story, Mr. Thomas.

THOMAS: It was to be our first baby. My wife was only twenty. The only doctor in the neighborhood was up in the city for a visit. We didn't have any midwife and for 72 hours she was in agony.

NARRATOR: Where was the nearest hospital?

THOMAS: Thirty miles away. You see we lived on a farm. Seventy-two hours she kept screaming—3 days of labor pains. We wrapped her in blankets, put her in the car, and drove to the hospital. But she died on the table. The hospital doctor told me she could have had her child and been happy. He was a fine doctor. He said every year thousands of mothers die. He called it a crime. He said one-half to two-thirds of these deaths could be prevented.

JOE: How?

NARRATOR: Dr. Martha Eliot, Assistant Chief of the Children's Bureau in the Department of Labor, has said:

ELIOT: "There must be facilities that provide for prenatal care of mothers; medical care of mothers and their newborn infants; care given by qualified local physicians with the aid of specialized consultants; assisted by nurses, preferably public health nurses, trained in obstetric nursing procedure. There must be facilities for expert diagnosis and care in diagnostic or consultation centers and in the home—for any mother, regardless of economics."

DOCTOR: We know that's true. Mothers don't have to die.

NARRATOR: I'm glad you came, Dr. Lindley. Will you tell the folks who you are?

DOCTOR: I'm a physician living in Cattaraugus County in the State of New York. Every day in Cattaraugus County, with the co-operation of the County Medical Society, the Milbank Memorial Fund and funds from the Social Security Act, a mother in or near the town of Orleans, regardless of whether or not she can afford private care, she is given a thorough prenatal examination. We follow this examination up with monthly check-ups. The baby is delivered by a doctor assisted by a nurse. He watches for all symptoms of blood poisoning, convulsions, and hemorrhage. There is no reason why maternity centers for the needy and for rural areas should not be flowering all over the United States.

NARRATOR: Thank you, Doctor.

2ND NARRATOR: The third problem, Joe, is:

VOICE: Industrial diseases and hazards. . . .

NARRATOR: We're going to need all the workers we can get in the factories, in the mills and the plants—to make tools, machinery, planes, tanks, ammunition. Hard dangerous work that needs stamina and needs health.

STEVE (*Hard-Bitten, Young, and Intelligent*): I'll tell the cockeyed world. . . .

2ND NARRATOR: Glad you could come here, Steve.

NARRATOR: You can explain the problem as well as anybody.

STEVE: You bet I can. There were 4 of us brothers. Not one of us weighed less than 180. I worked in the

coal mines in West Virginia; Gus worked in a factory in Ohio; Pete was a swing grinder in a steel mill; Ed worked in the stockyards.

JOE: What happened?

STEVE: Pete was the kid brother—him in the steel mill—he sweated because the furnaces were hot and then he'd come out in the cold when it was winter and he got pneumonia. So he died. Ed, that was my older brother—him in the stockyards—he gets hog itch—he was laid up for months. Gus—worked on a machine and he knows something is wrong with it. One day the thing goes to pieces, caves his chest in—he dies. Me—last week I began to spit blood and started coughing—the doc says I got silicosis. Well, 2 of us are dead and Ed and me might just as well be—we ain't no good. And we could have taken on double our weight in any fight.

JOE: Why did it happen!

STEVE: It didn't have to. You got more than 15 million people working in plants and factories. The less sickness they have and the less chance of accidents the better off this country will be for defense. After all we're the guys that make things run. So what's to be done? So this has got to be done. Educate the workers—the unskilled workers. Teach them to be careful. There ought to be more guys to keep their eyes on workers and train them not to have accidents. There ought to be more laws, laws to keep the factories and the mines safe. There ought to be closer inspection and better co-operation between the state inspectors and employers. And what's most needed is medical care for all the workers—quick care—good care—so a guy like me don't have to run around in circles coughing his lungs out until he gets a doctor.

2ND NARRATOR: Thank you, Steve.

NARRATOR: Now do you see, Joe, how all these little pieces fit together to tell a serious story? Do you see this waste of human life?

2ND NARRATOR: And we're not through. Here's the most important problem of them all.

NARRATOR: Medical care for the medical needy.

WOMAN (*Young, tired, bewildered*): Yeah. . . .

2ND NARRATOR: Glad you came, Mrs. Kolowkowski. Let's hear your story.

MRS. K: I'm twenty-five. Lou works on a construction gang. We pay \$16 a month for the flat.

NARRATOR: You have children?

MRS. K: One baby, 2 years old.

2ND NARRATOR: Where is he?

MRS. K: In the country. . . he's been sick.

JOE: What's the matter with him?

MRS. K: The doctor at the clinic said he must go to the Children's Home in the country. The doctor said he had a heart murmur.

NARRATOR: Had he been sick before?

MRS. K: Five months ago he had a bad ear. He got over that and then he got scarlet fever. We had to send him to the hospital. And he had to stay 3 weeks more because he got chickenpox. Then he got this heart murmur. If I'd felt well I could have taken better care of the baby maybe.

2ND NARRATOR: You have been sick?

MRS. K: When the baby came I went to the clinic. They found out I had a touch of t.b. They said I should rest. You ask my husband if I can rest.

MR. K (*Young and bewildered*): Hello.

NARRATOR: Can't your wife rest up?

MR. K: Fat chance! I don't know how I'm going to keep on. I owe money. Medicine costs a lot. I

got \$200 I got to pay to doctors. God knows where I'll get it.

JOE: How do *you* feel, brother?

MR. K: Me? I can't afford to get sick. I got to work. Getting sick takes every penny. It's sure funny how much we get sick. Maybe it's the flat. No sun, no ventilation. Maybe because we've always been poor and never had any doctors when we were kids. I don't get it. I don't know why our baby's got a heart murmur, any more than why the wife's got t.b. Funny, ain't it?

NARRATOR (*Sarcastically*): Funny, ain't it, Joe?

JOE: No, there's nothing funny about that! The way I see it we're just letting large hunks of our population get sick and die when they might be healthy and alive! Especially now when everybody is needed to put his shoulder to the wheel!

NARRATOR: Yes, Joe. We spend huge fortunes constructing highways, but not enough to take care of our mothers and our children. We spend millions in soil conservation, but what about human conservation? Listen to what the National Resources Planning Board writes:

VOICE: One-third of the nation, those with incomes under \$750 a year, is receiving inadequate or no medical service at all. An even larger section of the population suffers from economic burdens created by illness. Among those with low incomes there is more sickness and death as a result of less healthful living conditions.

2ND NARRATOR: The time has come, Joe, when we must remember that we've got to step up our rate of progress in health. The phrase is "life, liberty, and the pursuit of happiness"—the liberty and the pursuit of happiness of the nation aren't enjoyed unless the life of the nation is sound and healthy.

JOE: Well, we've got a job ahead of us! What's to be done?

NARRATOR: Here's what's to be done, Joe:

2ND NARRATOR: There must be a national defense health plan conceived and planned in co-operation with all the people of the United States. This is a democracy. Let the *people* wake up to the fact that health is as important a problem in total defense as building a battleship.

VOICE: Work must be done on slum clearance and housing and adequate relief for all the people. . . .

2ND VOICE: There must be enough hospitals and medical care for all people regardless of income. . . .

3RD VOICE: There must be a stepping up in our national drive against syphilis, tuberculosis, and cancer.

4TH VOICE: In this national defense health plan all preschool and school age children must be vaccinated against smallpox, whooping cough, and diphtheria.

VOICE: There must be expanded clinic and hospital service for prenatal care, for delivery, and for post-natal care.

2ND VOICE: Enforcement of present laws to do away with occupational diseases and hazards, better factory inspection, and a drive to educate workers to protect themselves from accidents.

3RD VOICE: An education program which can reach every one of 132 million people and teach them the importance of reaching a doctor at the first sign of illness.

JOE: Are these things being done?

NARRATOR: Too many of us are expecting miracles to happen overnight because of defense. You can't

build a battleship in a month nor can you make progress in national health in a few weeks.

2ND NARRATOR: But we are beginning strongly. Harriet Elliott of the Defense Commission has already begun work on these problems. She has 5 authorities as advisers on nutrition, on prices of food, on public health, on housing. A few weeks ago a meeting was held in Washington at which you, the people, sent your delegates to represent you. These delegates were from all walks of life; they represented trade unions, schools, nursing bureaus, farmers, and industrial workers. They sat for hours and made suggestions to the Defense Commission as to what to do. Here's what they suggested:

VOICE: Low labor standards threaten efficiency!

2ND VOICE: Low levels of health and nutrition menace the vigor of our people!

3RD VOICE: Exclusions and prejudices menace national unity!

4TH VOICE: Low living standards and lack of understanding and participation in democracy menace democratic values!

NARRATOR: And, Joe, there are recommendations that will help to start things going. They're going to work for more vigorous local ordinances for housing, health and sanitation, and for enforcing such ordinances. Relief authorities are being asked to set housing standards for families on relief. Local medical societies are being urged to study medical services locally to determine the best distribution between civilian and military requirements. They want to make sure civilian needs in the community will be taken care of.

JOE: Well, that sounds pretty good to me.

NARRATOR: Yes, Joe, it shows the ability of democracy to take a problem in which we are all concerned and to solve that problem—not for the *few* but for every individual among us. . . .

JOE: It looks as though the people can help in most of this work.

NARRATOR: It will have to be that way, or it will fail. If the people of this country wake up and realize how important their health is to total defense, they will do something about it. It needs education. It needs organization. It needs money. We have got to stop wasting human life! And with your help, Joe, we'll do it!

Music: Up and Out.

We are indebted to the ever-alert secretary of the State Medical Society of Wisconsin, Mr. J. G. Crownhart, of Madison, Wis., for bringing attention to the broadcast and supplying a copy of the manuscript.

In a communication accompanying the preprint from the October issue of the *Wisconsin Medical Journal*, Secretary Crownhart also informs us that Mr. Michael M. Davis, recalled as the medical director of the old Rosenwald Fund, and in connection with his work for the original Committee on the Costs of Medical Care, is to address the Wisconsin Conference on Social Work in Milwaukee on Sept. 27, his topic being "State Legislation Needed to Effectuate a National Health Program."

Any such program advocated by Mr. Davis may reasonably be expected to stand for the

creation of a state compulsory sickness insurance scheme.

Is not all of this of sufficient importance to arouse not only the personnel of all county medical society committees on public health legislation but the entire membership of every society to be active in directing attention to the impelling influences which lead the social theorist and the bureaucrat to waste the taxpayer's money through centralized, rather than local, control over health and sickness service?

VARYING REACTIONS

Written reactions to the letter of July 19, 1940, addressed to the more than 9000 members of The Medical Society of the State of Pennsylvania, also published in the August PENNSYLVANIA MEDICAL JOURNAL, which discussed appropriate care in the certification by physicians of indigency of applicants for marriage licenses under Pennsylvania's Act No. 76, have been few but varied. It will be remembered that the letter attempted to emphasize the need for consistency in the granting of free service extended by the state to persons certified as being indigent, whether by a physician in private practice recommending free laboratory service, or by an officially appointed social worker or nurse recommending other forms of free service. The last paragraph of the letter read as follows:

Let it not be said that any member of The Medical Society of the State of Pennsylvania would certify as to the indigency of persons with whose economic state he is not familiar. And by the same token let it not be said that any member would deny his own professional services to any of his own clientele unable to pay him for the physical examination now required of Pennsylvanians under Acts Nos. 76 and 360.

Two of the replies received from our members are printed "à la natural" in the "Letters" column of this issue of the JOURNAL. Some received show a total misunderstanding of the motives and the intent of the communication addressed to the entire membership; e.g., one member interpreted it as meaning that "the examining physicians were expected to render their service free while the private laboratory must be supported"; another, that "this same form of re-emphasizing the responsibility of the physician to the medical profession and to the public is much needed in other lines as well." One member practicing in the northwestern section of the state, recognizing that the State Health Department's own laboratory cannot charge any one for its serologic service, claimed that it is nevertheless "the only laboratory in the State of

Pennsylvania which the State of New York recognizes on the similar premarital test required in the Empire State."

Most of those replying favored as appropriate fees for Wassermann or Kahn tests made by laboratories other than the state laboratory sums ranging from \$2.50 to \$5.00, and reminded us that where the latter fee is charged, too often the private practitioner who sterilizes his instruments, withdraws the blood, and forwards it to the laboratory is unpaid for such services. Many of our correspondents were concerned about a misunderstanding on the part of the public over the position of the medical profession in relation to the passage of this legislation, fearing that the uninformed public might conclude that the medical profession had originated and supported the bills proposed for the purpose of increasing the profession's income.

We have been informed that since the letter of July 19 was sent out the number of requests to the state laboratory for free serologic tests has proportionately decreased, and we believe, since there has been a decided increase in the number of persons applying for marriage licenses in the State of Pennsylvania since the new law became effective, that up to the present time most of these thousands of persons are satisfied with the physician's examination, the serologic test, and the fees they are required to pay, if any.

It will be remembered that in some neighboring states, when a similar law was first enforced, applications for marriage licenses within the state fell off very considerably within the first year.

Several communications received, ignoring the tradition that professional fees should, if fixed at all, be fixed only on local or county bases, were critical because the law or the State Medical Society had not recommended fees for the serologic tests as well as the required physical examination.

PENNSYLVANIA COMMITTEE ON MEDICAL PREPAREDNESS

Following is the text of a post card addressed to the 9250 members of The Medical Society of the State of Pennsylvania, and a letter addressed to the members of county society preparedness committees reported to date:

DEAR DOCTOR:

Only 6500 Pennsylvania physicians have completed and returned the American Medical Association's medical preparedness questionnaire. If you are one of the

7000 Pennsylvania physicians who have not returned the questionnaire, please complete the form and return it at once to the A. M. A. at 535 N. Dearborn St., Chicago, Ill. If mislaid, write to the above address for a duplicate.

The A. M. A. Committee co-operating with the Federal Surgeons General is endeavoring to have a file card on every physician in the United States, regardless of his ability to render military service. This factor has been overlooked by many physicians, who consider themselves too old for military service and who discarded the questionnaire for that reason.

It is essential that all physicians be classified so that not only can some go into government service in time of war but others can be reserved for the care of the civilian population. What is needed TODAY is information which can best be supplied by the reporting physician himself. Please act promptly.

CHARLES H. HENNINGER, M.D.,

FRANCIS F. BORZELL, M.D.,

WALTER F. DONALDSON, M.D.

Sept. 13, 1940.

* * * *

To Members of County Committees on Medical Preparedness,

Presidents and Secretaries of
Component County Medical Societies.

At the present writing less than one-half of the county medical societies in Pennsylvania have responded to our communications of Aug. 16 and Aug. 27, requesting the prompt appointment of a Preparedness Committee to co-operate with our committee and the Committee on Medical Preparedness of the American Medical Association. The latter committee was created by the A. M. A. 1940 House of Delegates "to co-operate with the Council on National Defense, the Army, Navy, United States Public Health Service, and all other federal agencies in preparing our nation medically to meet any emergency." That the problem is pressing is demonstrated by the following:

1. Several hundred Pennsylvania physicians, members of the Medical Reserve Corps, have already been notified to expect a call to report for duty within 60 days.

2. In certain Pennsylvania districts the county preparedness committees have already been called upon in their advisory capacity to express opinion as to the actual degree of the dependence of certain hospitals, municipal and state health departments, medical schools, and industrial establishments or even of local communities upon the uninterrupted service of certain physicians.

3. In a few counties study is already being given to the means and methods of preserving intact, as nearly as possible, the private practice of local physicians responding to the call to the colors this fall or later in the winter season.

4. The Cumberland and Philadelphia County Medical Societies have very wisely planned programs of instruction helpful to all physicians, dentists, and nurses in their desire to learn promptly of their civil or military and their organizational duties in the presence of a national emergency.

5. Decision may soon be announced as to the method of making physical examinations in the operation "draft boards" under the conscription bill and anticipating correction of the examination deficiencies which developed in the selective service system of 1918.

☛ In the counties where medical preparedness com-

mittees have been appointed we request study and action in preparation for prompt observance of all the above-mentioned items.

☛ Upon the officers of the remaining county medical societies we urge prompt appointment of carefully selected committees, so that Pennsylvania may not lag behind in its response to the great responsibility laid upon the profession throughout the nation by the National Defense Council, the Surgeon General of the Army, and others mentioned in the first paragraph of this communication.

The A. M. A. questionnaire which seeks to have a file card for every physician in the United States, regardless of his ability to render medical service, was sent to approximately 4500 Pennsylvania physicians who are not members of The Medical Society of the State of Pennsylvania.

All members of the latter society are earnestly requested to discuss with all physicians with whom they come in contact the subject of the importance of promptly returning the completed A. M. A. questionnaire whether the physicians be members of the county medical society or not. If the form has been mislaid, another may be obtained by writing to the secretary of the State Medical Society, Jenkins Arcade Building, Pittsburgh.

All members receiving this communication will please consider it a personal responsibility at all times to advance the prestige of the medical profession by giving and urging immediate and consistent support to the entire subject matter of this communication. *Follow the A. M. A. Journal.*

Very truly yours,

PENNSYLVANIA COMMITTEE ON MEDICAL PREPAREDNESS,

Francis F. Borzell, M.D.,

Walter F. Donaldson, M.D.,

Charles H. Henninger, M.D., *Chairman.*

Sept. 14, 1940.

MEDICAL CARE PROGRAM FOR FARM SECURITY ADMINISTRATION CLIENTS IN MERCER COUNTY

In the June PENNSYLVANIA MEDICAL JOURNAL we published in full the medical care program for FSA clients in Crawford County, and in the preceding issue (May) information and comments on an interesting survey and studies of the medical needs of this group preliminary to the adoption of the printed plan (June JOURNAL).

Inasmuch as the complete plan occupied one and one-half journal pages, we publish in this issue in full only the paragraphs in which changes were made as adopted in Mercer County:

1. *Those Eligible for Participation.* No change.
2. *Loans for Participation.* No change.
3. *Trust Fund and Trustee.* Changed to read as follows:

"Each participating family will deposit the full annual payment in advance with the trustee, and will authorize

the trustee to hold his money and act as his agent. The trustee will deposit all such advance payments in a trust fund. From this fund will be deducted 5 per cent for administrative expenses, including bonding fee, stationery, postage, and clerical help. The remainder of the fund will be available for the payment of physicians' bills."

4. *Physicians Eligible to Participate.* Changed to read as follows:

"Only doctors of medicine licensed to practice in the state of Pennsylvania, who are members, or eligible to become members of The Medical Society of the State of Pennsylvania, are eligible to participate in this plan."

5. *Families' Identification Cards.* The following paragraph has been added:

"It is understood that services are to be rendered only to members of the family who are dependent entirely on income from the farm on which they live."

6. *Services.* Paragraph B, first sentence, changed to read:

"The client shall be entitled to a general physical examination when indicated by the physician"; etc., etc., and the following added:

"Services not included—roentgen rays, special medication, hospital care. Expense incurred for such procedure's will be borne by the patients."

7. *Payment of Physicians' Bills.* First paragraph changed to read as follows:

"After deduction of 5 per cent for administrative expenses, the trust fund will be divided into twelfths, one-twelfth then being available for the payment of bill of each month. *If at the end of each current month there should be any balance, that balance shall be added to the amount set aside for the next ensuing month.*"

Third paragraph changed to read as follows:

"Physicians will submit to the trustee monthly bills for services using the bill form which will be distributed to all the physicians. All bills must be in the hands of the trustee by the tenth of each month. *In the event that a physician shall omit to send a bill for services rendered by the tenth of the next month, that bill shall be held until the end of that current year (Dec. 31), and if there shall be any money left in the trust fund, the trustee will be authorized by the Farm Security*

Administration Committee from the Mercer County Medical Society to then pay that bill."

Fifth paragraph (No. 4) changed to read as follows:

"If there is a surplus after a 12-month period after all bills have been paid, *including those which were received late*, such surplus shall be made available for use the following year or, in the event that the plan should be discontinued, returned to the clients on a pro-rata basis in proportion to their original loans."

8. No change.

9. Changed to read as follows:

"The relationship between individual patients and their physicians will remain the usual confidential patient-personal physician relationship as at present, *which means the full choice of physician by the patient, and the right of the physician to reject original call in any case.*"

10. Following paragraph added:

"*It shall be specifically called to the attention of the clients that prenatal obstetric care shall be rendered at the office of their physician, not at home except at the discretion of the physician, and if the clients insist on home visits, then the regular trip fee shall be charged.*"

11. Following paragraph added:

"*It is understood that this agreement is to be renewed annually, and if altered in any way other than specified in this agreement, the entire agreement is null and void.*"

At the present writing consideration is being given by the Bradford County Medical Society to adoption of the Mercer County Plan, the service to cover the adjoining county of Sullivan. Should Bradford County arrive at an agreement, the total number of county medical society agreements in force will be 5, rendering service in 6 counties.

The accompanying table shows the record of the first 5½ months' service rendered in Tioga and Potter counties under the FSA medical care program. Since this is the first report of results accomplished in this state, it should prove interesting to all concerned.

MEDICAL CARE PROGRAM IN TIOGA-POTTER COUNTIES, PENNSYLVANIA

	No. of Families	No. of Persons	No. of Persons Treated	No. of New Cases Illness	Office Calls	Home Calls	O B Cases	Monthly Allotment	Approved Bills	Bills Paid	Bills Unpaid	Cumulative Surplus	Per Cent Payment
1940													
3/15													
3/31	42	231	4	4	4	3	0	\$31.27	\$16.00	\$16.00	None	\$15.27	100
Apr.	51	280	19	19	31	4	0	76.42	45.00	45.00	None	46.69	100
May	55	295	21	18	33	2	0	82.93	61.50	61.50	None	68.12	100
June	69	371	35	27	67	2	0	109.33	102.00	102.00	None	75.45	100
July	75	396	35	30	57	4	1	131.23	125.00	125.00	None	81.68	100
Aug.	75	396	41	32	68	4	0	131.23	108.00	108.00	None	104.91	100
Total	..	..	155	130	260	19	1	.....	\$457.50	\$457.50	.....	\$104.91	100
Aver. No.	61.1	328.1											

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since Aug. 5. Figures in first column indicate county society numbers; second column, State Society numbers:

Aug. 15	Westmoreland	178-184	8994-9000	\$70.00
	Northumberland	77	9001	10.00
	Luzerne	341-342	9002-9003	20.00
	Fayette	128	9004	10.00
	Bedford	15	9005	10.00
19	Fayette	129	9006	10.00
	Bucks	79	9007	10.00
20	Blair	111	9008	10.00

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

New Members (5)

LYCOMING COUNTY

Joseph M. Korengo R. D., Nisbet

PHILADELPHIA COUNTY

John Henderson Philadelphia
Edward E. Holloway

WESTMORELAND COUNTY

George E. Biskup R. D., Mount Pleasant
Saul M. Fleegler New Kensington

Reinstated Members (17), Removals, Resignations (1), Transfers, Deaths (11)

ALLEGHENY: *Deaths*—Ralph H. Dunlap, Bellevue (Johns Hopkins Univ. '19), Aug. 7, aged 49; Rudolph Hanover, McKees Rocks (Balt. Med. Coll. '06), Aug. 1, aged 62; Joseph M. Jackson, Pittsburgh (Columbia Univ. '99), July 31, aged 63.

BEDFORD: *Reinstated Member*—Wesley F. McCahan, Everett.

BLAIR: *Reinstated Member*—Daniel R. Mock, Altoona.

BUCKS: *Reinstated Member*—Harvard R. Hicks, Doylestown.

CLEARFIELD: *Removal*—James F. Smith from Woodland to Clearfield. *Death*—Irwin Scott Flegel, Karthaus (Univ. Pgh. '94), July 28, aged 75.

ERIE: *Death*—Cecil E. Ross, Erie (West. Res. Med. Coll. '31), June 26, aged 38.

Reinstated Members—William P. Patterson, Fairchance; Stuart D. Scott, Connellsville.

FAYETTE: *Death*—John W. Gordon, Sr., Belle Vernon (Jeff. Med. Coll. '78), Aug. 6, aged 84.

LUZERNE: *Reinstated Members*—Edwin W. Meixell, Wilkes-Barre; Hugh G. Boyle, Kingston. *Resignation*—Anna L. Levy, Newark, N. J. *Death*—Lewis L. Rogers, Wilkes-Barre (Univ. Pa. '13), Aug. 11, aged 51.

McKEAN: *Death*—Allen A. Van Slyke, Mt. Jewett (Univ. Buffalo '82), May 30, aged 82.

NORTHUMBERLAND: *Reinstated Member*—Donald N. Ball, Box 164, Lumberton, N. C. *Death*—Lorenzo B. Zimmerman, Mount Carmel (Jeff. Med. Coll. '94), June 20, aged 70.

PHILADELPHIA: *Reinstated Members*—James S.

Dean, George Wm. Firth, Sr., Henry V. Marvel, William B. Whetstone. *Death*—Charles F. Nassau, Philadelphia (Univ. Pa. '91), Aug. 11, aged 72.

SCHUYLKILL: *Death*—J. Louis Hoffman, Ashland (Univ. Pa. '86), Aug. 18, aged 76.

WESTMORELAND: *Reinstated Members*—Charles D. Ambrose, Marion H. Crumlish, G. T. Lamon, Charles W. Dixon, Carl G. Vonderheid.

Net gain in membership during August 10

LIBRARY NEWS

Members desiring to borrow reprints from the library should send 25 cents in stamps to cover the postage and part of the expense of collecting the material. Address the Librarian, 230 State St., Harrisburg, Pa. Each package may be kept for a period of 14 days.

Between Aug. 1 and Sept. 1 the following borrowers made use of the library:

State Board of Pharmacy Laboratory, Harrisburg—*Scabies* (1 article).

Library of the State Department of Public Assistance, Harrisburg (1 journal).

Alexander W. Seygal, Harrisburg—*Disorders of Menstruation* (18 articles).

Frederick B. Utley, Pittsburgh—*First Aid* (7 articles).

Dale C. Stahle, Harrisburg—*Vital Statistics* (9 articles); *Therapy of Pneumonia* (7 articles); *Sulfathiazole* (1 article); *Vital Statistics* (2 articles).

Edward S. Montgomery, Tarentum—*Calculi of the Kidneys* (22 articles).

R. Stanley Bank, Harrisburg—*Mononucleosis* (1 article).

Grace Bowers, Harrisburg—*Benzedrine* (20 articles).

Howard R. Rarig, Berwick—*Sexual Sterilization* (2 articles); *Sutures* (7 articles); *Therapy of Fractures* (10 articles).

Camilla M. Anderson, Philadelphia—*Emotions* (8 articles).

Samuel A. Bonnaffon, Philadelphia—*Anemia* (38 articles).

Morris H. Layton, Harrisburg—*Therapy of Pulmonary Tuberculosis* (7 articles).

Pennsylvania Association for the Blind, Harrisburg—*George Edmund de Schweinitz* (3 articles).

J. Martin Kinnunen, Meadville—*Puerperal Infection* (23 articles).

Joseph S. Brown, Lewistown—*Gallbladder Complications of Diabetes* (18 articles); *Dextrose Tolerance* (15 articles).

Oliver H. Swartz, Middletown—*Epilepsy* (10 articles).

Lloyd Persun, Harrisburg—*Meningitis* (21 articles).

Creedin S. Fickel, Carlisle—*Alopecia Areata* (13 articles).

Edward L. Jones, Lebanon—*Herpes Zoster* (27 articles).

J. Reginald Myers, Everett—*Coma in Diabetes Mellitus* (15 articles); *Paraldehyde* (10 articles).

J. Moore Campbell, Harrisburg—*Socialized Medicine* (9 articles).

Richard D. Kraft, Johnstown—*Mines and Miners* (4 articles).

William T. Douglass, Harrisburg—*Diseases of the Hematopoietic System* (9 articles).

Clyde B. Lamp, Monongahela—*Leukoplakia* (12 articles).

Joseph Paul Dobo, Duquesne—*Pregnancy and Syphilis* (27 articles).

George L. Laverty, Harrisburg (1 journal).

Malcolm S. Stevenson, Finleyville—*Socialized Medicine* (30 articles).

George C. Stamm, Scottdale—*Adherent Placenta* (10 articles).

Samuel A. Rulon, Jr., Phoenixville—*Toxicity of Benzedrine* (11 articles); *Narcolepsy* (15 articles).

AN IDEAL COUNCILOR DISTRICT PROGRAM

Tenth Councilor District Meeting of THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Pittsburgh, Wednesday, July 17, 1940

Clinics—9 a. m., D. S. T.

General Surgery

JOHN P. GRIFFITH, M.D.,
Professor of Surgery, University of Pittsburgh
At Mercy Hospital

Management of Diabetes

GEORGE BOOTH, M.D.,
Medical Director, Renziehausen Memorial Fund
At Western Pennsylvania Hospital

Dermatology and Syphilology

WILLIAM H. GUY, M.D.,
Professor of Dermatology, University of Pittsburgh
At Falk Clinic

Formal Program—11 a. m. to 12 m., Webster Hall

Present Status of Industrial Medicine

NATHAN A. KOPELMAN, M.D., New Kensington,
Member, State Medical Society Committee on Industrial
Health

Report of the Commission on Diabetes

J. WEST MITCHELL, M.D., Pittsburgh,
Tenth Councilor District Representative,
State Society Commission on Diabetes

Some Observations on the Pennsylvania Survey on Acute Appendicitis Mortality (Lantern Slides)

JOHN O. BOWER, M.D., Philadelphia,
Chairman, State Society Commission on Acute
Appendicitis Mortality

Luncheon—12:15 to 1 p. m.

Invocation

REV. C. MARSHALL MUIR
Pastor, Bellefield Presbyterian Church

After-Luncheon Program

Two-minute Reports of County Society Activities By District Censors

DAVID P. McCUNE, M.D., McKeesport, Allegheny
County Society

J. HOWARD SWICK, M.D., Beaver Falls, Beaver County
Society

JOHN FOSTER, M.D., New Castle, Lawrence County
Society

THOMAS ST. CLAIR, M.D., Latrobe, Westmoreland
County Society

Presentation of 50-Year Testimonial Certificates

From The Medical Society of the State of Pennsylvania
to the Physicians of the Tenth Councilor District
in Practice 50 Years or More

(List Appended)

Presented by CHARLES H. HENNINGER, M.D.,
President, The Medical Society of the State of
Pennsylvania

Response

JOHN M. THORNE, M.D., Pittsburgh
54 years in practice

Introduction by

MRS. HOWARD A. POWER, Pittsburgh
District Councilor, Woman's Auxiliary, Tenth
Councilor District

of MRS. MAXWELL LICK, Erie
President-elect, Woman's Auxiliary to The Medical
Society of the State of Pennsylvania

New State Laws Directly Affecting Practitioners

CHAUNCEY L. PALMER, M.D., Pittsburgh
Chairman, State Medical Society Committee on Public
Health Legislation

Scientific Program—2 p. m.

The Treatment and the Progress of Diabetic Children (Lantern Slides)

HENRY J. JOHN, M.D., Cleveland, Ohio
Member, American Therapeutic Society; Association
for Study of Internal Secretions; Central Society
of Clinical Research

Clinical Manifestations of Syphilis with Sug- gestions on Treatment (Lantern Slides)

WILLIAM H. GUY, M.D.,
Professor of Dermatology, University of Pittsburgh

Auxiliary Program

2 p. m., Webster Hall Hotel

MRS. HOWARD A. POWER, District Councilor, Presiding

Welcome

MRS. JAY G. LINN
President, Woman's Auxiliary to Allegheny County
Medical Society

Relations of Councilor District to the State Medical Society

CHARLES H. HENNINGER, M.D., Pittsburgh
President, The Medical Society of the State of
Pennsylvania

Presidential Reports

From Component County Auxiliaries: Allegheny,
Beaver, Lawrence, Westmoreland

Address

MRS. MAXWELL LICK, Erie
President-elect, Woman's Auxiliary to The Medical
Society of the State of Pennsylvania

Report on Program of the Woman's Auxiliary
to the American Medical Association
MRS. WALTER F. DONALDSON, Pittsburgh

Introduction of State Auxiliary Officers

Public Relations Activities of the State Medical
Society

FREDERICK M. JACOB, M.D., Pittsburgh
Chairman, State Medical Society Committee on Public
Relations
President, Allegheny County Medical Society

Latest Project for the Care of Convalescent
Cardiac Children in Allegheny County—
"Heart House"

MISS MARTHA LESLIE, Pittsburgh
Executive Secretary, Child Health Division,
General Health Council of Allegheny County

*"In recognition of his years of medical service faithfully
performed to his community in the traditional
ideals of the medical profession."*

ALLEGHENY COUNTY

50 years

Anthony J. Boucek James M. McNall
Joseph M. Douthett Seymour B. Moon

51 years

William W. Blair Samuel McNaugher
Ewing W. Day Elmer E. Neely
Albert T. Zeller

52 years

Harry E. Clark Herbert J. Hopkins
John C. Hierholzer James P. Kerr

53 years

Elizabeth C. Mallison William W. Sturgis
Thomas Turnbull, Jr.

54 years

Theodore Diller Israel B. Reed
Edward P. Logan John M. Thorne

55 years

Christian Hager

56 years

William T. Burleigh William N. Marshall
John A. Hagemann

59 years

Louis C. Botkin James A. Potts
Edward C. Lewis John Purman

62 years

Henry A. Hutchison Logan M. Kifer

64 years

John D. Milligan

BEAVER COUNTY

James S. Louthan, 58 years John J. Wickham, 55 years

WESTMORELAND COUNTY

50 years

Simon P. Earnest John S. Silvis

51 years

Walter H. Brown

52 years

Louis J. C. Bailey Harry F. Kimmel
Daniel M. Easter Robert P. McClellan

53 years

Ross H. Speer Joseph C. Stahlman

54 years

Daniel I. Leatherman

55 years

Martin E. Griffith Carroll B. Rugh

56 years

William H. Taylor

CONTRIBUTIONS TO MEDICAL
BENEVOLENCE FUND

The Committee on Medical Benevolence makes grateful acknowledgment of contributions to the medical benevolence fund from woman's auxiliaries to the following county medical societies:

Woman's Auxiliary, Mifflin County	\$30.00
Woman's Auxiliary, Venango County	50.00
Woman's Auxiliary, Fayette County	50.00
Woman's Auxiliary, Greene County	25.00
Woman's Auxiliary, Armstrong County	35.00
Woman's Auxiliary, Lawrence County	50.00
Woman's Auxiliary, Clearfield County	50.00
Woman's Auxiliary, Bradford County	5.00
Woman's Auxiliary, Tioga County	25.00
Woman's Auxiliary, Lackawanna County	200.00

Total contributions since 1940 report \$520.00

There is a definite need for a layman who is an outstanding writer and commentator to assist the organized medical profession. Such a man could carry the message of better understanding to the public at large in a forceful manner that would be of untold value to the medical profession and to the public. This is in no way a criticism of the splendid work of our medical officers.

On several occasions that fiery and fearless columnist Westbrook Pegler has championed the physicians and lambasted the government for its unfair attack upon them.

Boake Carter also wrote a forceful editorial, published in his column early this year, that was a masterpiece.

It is a certainty that there has been no spreading of the news over the front pages of the newspapers that the government lost its suit before Justice Procter.

Provisional Morbidity in Pennsylvania

July, 1940

Locality	Disease					Locality	Disease				
	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough		Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Aliquippa	0	2	1	1	13	New Castle	0	0	1	0	1
Allentown	1	19	0	0	59	New Kensington ...	0	0	2	0	5
Altoona	0	2	2	0	2	Norristown	0	1	0	1	5
Ambridge	0	1	1	0	4	North Braddock ..	0	0	0	0	0
Arnold	0	1	0	0	1	Oil City	0	1	0	0	12
Beaver Falls	0	3	0	0	3	Old Forge	0	0	0	0	0
Bellevue	0	0	0	0	0	Olyphant	0	0	0	0	0
Berwick	0	0	0	0	0	Philadelphia	3	474	74	2	107
Bethlehem	0	9	0	2	1	Phoenixville	0	1	0	0	0
Braddock	0	0	0	0	1	Pittsburgh	4	6	20	2	90
Bradford	0	0	0	0	0	Pittston	0	0	0	0	0
Bristol	0	0	0	0	0	Plymouth	0	0	0	0	1
Butler	0	1	1	0	8	Pottstown	0	0	0	0	6
Canonsburg	0	0	1	0	0	Pottsville	0	1	0	0	0
Carbondale	0	0	0	0	0	Reading	0	10	2	1	108
Carlisle	0	0	0	0	0	Scranton	0	1	0	0	4
Carnegie	0	0	0	0	0	Shamokin	0	0	0	0	0
Chambersburg	0	0	0	0	0	Sharon	0	0	0	1	9
Charleroi	0	0	0	0	2	Shenandoah	1	0	0	0	0
Chester	0	1	2	0	7	Steelton	0	0	2	0	1
Clairton	0	0	0	0	2	Sunbury	0	0	0	0	8
Coatesville	0	0	0	0	0	Swissvale	0	0	0	0	0
Columbia	0	0	4	0	0	Tamaqua	0	0	0	0	0
Connellsville	0	0	0	0	1	Taylor	0	0	0	0	0
Conshohocken	0	2	0	0	3	Turtle Creek	0	0	1	0	2
Coraopolis	0	0	0	0	4	Uniontown	0	0	0	0	1
Dickson City	0	0	0	0	0	Vandergrift	0	0	1	0	2
Donora	0	1	0	0	0	Warren	0	1	1	0	12
Dormont	0	0	0	0	0	Washington	0	1	0	1	12
Du Bois	0	0	0	1	0	Waynesboro	0	0	3	0	0
Dunmore	0	0	0	0	0	West Chester	0	2	0	0	13
Duquesne	0	0	0	0	0	Wilkes-Barre	1	7	0	0	1
Easton	0	1	0	0	6	Wilkesburg	0	1	0	0	31
Ellwood City	0	0	1	0	7	Williamsport	0	2	2	0	0
Erie	0	13	5	0	45	York	0	0	2	0	4
Farrell	0	0	0	1	2	Townships					
Franklin	0	1	6	0	0	Allegheny County:					
Greensburg	0	0	0	0	0	Harrison	0	0	2	0	9
Hanover	0	0	0	0	0	Mt. Lebanon	0	0	1	0	0
Harrisburg	0	5	2	0	17	Stowe	0	0	0	0	0
Hazleton	1	0	0	0	0	Delaware County:					
Homestead	0	0	0	0	0	Haverford	0	6	0	0	0
Jeannette	0	0	0	0	0	Upper Darby	0	2	2	0	0
Johnstown	0	1	0	0	6	Luzerne County:					
Kingston	0	1	0	0	0	Hanover	0	0	0	0	0
Lancaster	0	3	2	0	18	Plains	0	0	1	0	0
Latrobe	0	0	0	0	0	Montgomery County:					
Lebanon	0	0	0	0	0	Abington	0	2	0	0	2
Lewistown	0	0	0	0	0	Cheltenham	0	1	1	1	0
McKees Rocks	0	0	0	0	0	Lower Merion ...	0	16	0	0	0
McKeesport	0	2	2	0	6	Total Urban ..					
Mahanoy City	0	0	0	0	0	Total Rural ...					
Meadville	0	0	0	0	0	Total State ...					
Monessen	0	0	1	0	0		11	605	149	14	664
Mount Carmel	0	0	0	0	0		15	130	137	26	672
Munhall	0	0	0	0	0		26	735	286	40	1336
Nanticoke	0	0	0	0	0						

Pennsylvania and Pneumonia

Second Series

Twenty Educational Bulletins

(With Appendix)

Issued from September, 1939, to September, 1940

by the

Commission for the Study of Pneumonia Control

of

The Medical Society of the State of Pennsylvania

"Pennsylvania Leads in Pneumonia Control"

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

230 STATE STREET

HARRISBURG, PA.

COMMISSION FOR THE STUDY OF PNEUMONIA CONTROL 1939-40

Edward L. Bortz, M.D., *Chairman*,
2021 W. Girard Ave., Philadelphia, Pa.

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D. Sargeant Pepper, M.D., Philadelphia.
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Edward W. Bixby, M.D., Wilkes-Barre.
(Each member represents his councilor district.)

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Charles H. DeWan, M.D., Sayre.
Harriett M. Harry, M.D., State College.

* Member of State Society Commission.

FOREWORD

The Medical Society of the State of Pennsylvania, through its Commission for the Study of Pneumonia Control, herewith presents Series 2 consisting of 20 educational bulletins bearing on the various important aspects of pneumonia that should be known by every practicing physician.

The reception given the publication of the first series was far beyond the expectations of the commission, particularly the large number of demands for the publication received from many sources throughout the nation. General practitioners and specialists, health departments, federal government officials, and numerous others sent requests for the first series of bulletins.

The first and second series together comprise 50 short, crisp, common-sense discussions. The duplication noted in occasional instances was introduced for the purpose of emphasis and reiteration of major facts. The majority of the material for the first series was prepared by Leon H. Collins, Jr., M.D. The material contained in the second series was prepared by various members of the commission.

The death rate from pneumonia in Pennsylvania has shown a spectacular reduction during the past 5 years. This is due not only to the availability of high potency serums and effective germ-destroying chemicals but, in addition, to the exceedingly gratifying widespread response by the physicians throughout the commonwealth

in the utilization of the most modern methods of diagnosis and treatment.

To the general practitioners, therefore, goes the major part of the credit for saving patients who otherwise would have died. The officers and trustees of The Medical Society of the State of Pennsylvania deserve high praise for their energetic support of the measures that were necessary to carry on a state-wide pneumonia control campaign.

The commission of the State Medical Society is deeply indebted to the Secretary of Health of Pennsylvania, John J. Shaw, M.D., for his un-failing co-operation and generous assistance at all times. Never once has his interest in the pneumonia control program waned. Particular credit is likewise due Dale C. Stahle, M.D., director of the Division of Pneumonia Control of the State Department of Health.

The chairman desires publicly to pay tribute to the physicians of the state, to the officials of the State Medical Society, to the members of the commission, and finally to Mr. Lester H. Perry, managing editor of THE PENNSYLVANIA MEDICAL JOURNAL, who has supervised the publication of both series of bulletins.

EDWARD L. BORTZ, M.D., *Chairman,*
COMMISSION FOR THE STUDY OF
PNEUMONIA CONTROL.

Twenty Numbered Bulletins Arranged in Sequence

- No. 1—In Review
- No. 2—Ready for Action
- No. 3—"Virus" Pneumonia
- No. 4—"Virus" Pneumonia—Diagnosis and Treatment
- No. 5—Hemolytic Streptococcic Pneumonia
- No. 6—Staphylococcic Pneumonia
- No. 7—Selection of Therapy
- No. 8—Sulfapyridine Sodium
- No. 9—The Common Cold
- No. 10—Influenza
- No. 11—Influenza (Concluded)
- No. 12—Pleurisy—With Special Reference to Its Relationship to Pneumonia
- No. 13—Treatment of Pleurisy—Acute Fibrinous Pleurisy
- No. 14—Empyema
- No. 15—The Need for Early Specific Therapy in Pneumonia
- No. 16—Need of Accurate Pneumonia Statistics—Difficulties in Collection
- No. 17—Modern Pneumonia Treatment in the Home
- No. 18—Sulfathiazole
- No. 19—The Treatment of Pneumococcus Pneumonia with Sulfathiazole
- No. 20—Summary

Appendix

- A. Future Plans

PENNSYLVANIA AND PNEUMONIA

Second Series

Bulletin No. 1 IN REVIEW

The favorable comments with which the first series of 30 bulletins on pneumonia control have been received has encouraged the commission to plan the publication of a second series.

These bulletins will be issued at approximately 10-day intervals throughout the 1939-40 pneumonia season.

The commission will endeavor to present high lights in the diagnosis and newer methods of treatment of pneumonia with their refinements as the data become available.

Reduced to simple terms the mortality rate for pneumonia in any section of Pennsylvania can be further reduced by (1) an increased responsiveness on the part of the public to consult promptly a doctor of medicine for the treatment of any troublesome respiratory tract infection; and (2) a well-informed group of such physicians trained to adopt promptly the latest methods of diagnosis and treatment.

In a certain sense the spectacular development of chemotherapy in the field of pneumonia during the past 2 years has complicated the problem of pneumonia control. Too many physicians are prescribing sulfapyridine for all infections of the respiratory tract without due consideration to the possibility that a virus infection might be present or a bacterial agent other than the pneumococcus or streptococcus may exist as the etiologic factor. In such cases the addition of a potentially toxic drug adds to the patient's malaise and confuses the clinical picture. Physicians with a large consulting practice are reporting the frequent occurrence of toxic reactions from the ill-advised use of potent chemotherapeutic agents.

The Commission for the Study of Pneumonia Control of the State Medical Society will continue to urge critical study of each patient threatened or afflicted with pneumonia in order that the best results may be obtained.

John J. Shaw, M.D., Secretary of Health of the Commonwealth of Pennsylvania, has estab-

lished a Division of Pneumonia Control with Dale C. Stahle, M.D., as head of the department. Approximately 170 typing and distributing centers have been located at strategic points throughout the entire State of Pennsylvania. Splendid facilities for diagnostic examination of sputum and blood are being made available and therapeutic serum for the various types of pneumococcal pneumonia will be readily obtainable.

In addition, the department will distribute sulfapyridine through the physician in charge of each case, free of charge for all patients who would otherwise find it impossible or a great hardship to pay.

The Department of Health requests that physicians fill in the blank forms in the packages of serum and sulfapyridine. These blanks are to be completed and returned promptly to the Division of Pneumonia Control of the State Department of Health at Harrisburg.

The medical profession in the State of Pennsylvania now finds itself faced with a great opportunity to wage an effective battle against the most common and devastating of all of the acute infectious diseases.

The physicians have in the State Medical Society and the State Department of Health 2 powerful agencies that are working hand in hand in an endeavor to place at the disposal of every practicing physician, for the benefit of patients, the very latest methods for the early diagnosis and the adequate treatment of pneumonia.

The physicians are urged to lend their utmost co-operation to this exceedingly important activity to the end that Pennsylvania, the birthplace of American medicine, may lead the nation in pneumonia control.

EDWARD L. BORTZ, M.D.

Bulletin No. 2 READY FOR ACTION

The pneumonia season is approaching. The people of Pennsylvania will develop approximately 30,000 cases of pneumonia and the physicians will be called upon to treat these patients in the next few months.

Today Pennsylvania has the best pneumonia control program in the nation. At the time of this writing, effective therapeutic sera for all of the different types of pneumococcic pneumonias have been made available by the State Department of Health. Sulfapyridine is now stocked in 170 distribution centers throughout the state. Health officials, working in intimate co-operation with representatives of our State Medical Society, are doing all in their power to assist every physician in saving lives of patients suffering from pneumonia. The success of the pneumonia control program in Pennsylvania now rests entirely in the hands of the physicians.

There is a pneumonia control committee in each county medical society. These committees are interested in the distribution of literature and in the arranging of meetings in hospitals and at other points to discuss the latest advances in diagnosis and treatment. In addition, meetings for lay groups are being arranged so that all patients suffering from troublesome upper respiratory tract infections may be induced to call upon the physicians promptly for adequate treatment.

The mortality rate from pneumonia in Pennsylvania should show a spectacular drop during the approaching season.

As pneumonia is now a reportable disease, and simplified forms are now available which are to be filled out, physicians are earnestly requested to fill out the blanks promptly and forward them to the State Department of Health.

From the use of these statistics it will be possible to ascertain the extent of pneumonia in the state, the prevalence of the various types, their virulence as determined by the death rate, the most commonly occurring complications, associated pathologic lesions which add to the mortality rate, and certain other important information. These statistics will subsequently be presented to the profession and the public at regular intervals through proper channels.

EDWARD L. BORTZ, M.D.

Bulletin No. 3

"VIRUS" PNEUMONIA

It should be clearly understood that those forms of pneumonia not caused by pneumococci or hemolytic streptococci *should not be treated* with sulfapyridine. It should also be emphasized that all pneumonias are not caused by the pneumococcus, and the mere *presence in the sputum* of pneumococci of the higher numbered types does not necessarily mean that they are the cause of the pneumonia. They may be normal inhabitants of the nasopharynx.

In 1938 and 1939 a kind of pneumonia was prevalent which had peculiar characteristics of its own. It was not caused by any of the usual forms of bacteria and was not influenced by sulfapyridine.

During the epidemic of 1939 great numbers of persons were sick with a mild infection of the respiratory tract, most of them not ill enough to go to bed. About 25 per cent of patients in one group studied had to go to bed. Of these, many had tracheobronchitis and a few (6 per cent of those ill) had nasopharyngo-tracheobronchopneumonia. Because of work done in 1938 in which a filtrable virus was isolated from 2 patients, this form of pneumonia came to be called "virus" pneumonia, although the term is hardly justified until further proof is at hand. It is important, nevertheless, to realize that in a small percentage of cases of mild respiratory tract infection the lungs may be involved in a bacteria-free pneumonia similar to the state of affairs now known to exist in true epidemic influenza.

In this form of pneumonia, hemolytic streptococci or pneumococci of the higher numbered types may be present in the sputum without etiologic significance, and treatment with sulfapyridine or specific immune serum is not indicated. On the other hand, in a few cases, pneumococci of the invasive types I, II, III, V, VII, VIII, and XIV may be present and actually cause disease. When they do, the pneumonia which follows is usually (but not always) of the typical clinical lobar form. When and when not to use chemotherapy or serotherapy then becomes a matter of judgment based on clinical and bacteriologic data.

It is of utmost importance in every case of pneumonia to attempt to discover the etiologic agent at the earliest possible moment. In case of doubt, however, or when the clinical symptoms are characteristically those of clinical lobar pneumonia, the patient should be regarded as a case of pneumococcus lobar pneumonia and treated appropriately (see Bulletin No. 4).

HOBART A. REIMANN, M.D.

Bulletin No. 4

"VIRUS" PNEUMONIA

Diagnosis and Treatment

Diagnosis.—The entity which has been tentatively called "virus" pneumonia represents the severe form of a common, mild infection of the respiratory tract. The diagnosis is based chiefly on the symptoms, signs, and laboratory data and

on the occurrence of other similar cases at the same time.

Most cases begin gradually with evidence of nasopharyngitis, malaise, shivering, and headache. The mucous membranes become inflamed and dry. After a few days the infection seems to travel downward into the trachea, bronchi, and finally into the lungs. The symptoms become worse. Coughing is dry and paroxysmal, there is photophobia, pain in the eyeballs, headache, profuse sweating, fever, and in the most severe cases, dyspnea and cyanosis. The pulse may be slow. There is but little if any sputum and the leukocytes are usually normal in number. Roentgenograms may show engorgement of the bronchovascular markings and even pulmonary infiltration for several days before the appearance of abnormal physical signs. The lesion may be confined to one lobe. The physical signs of pneumonia are chiefly suppressed breath and voice sounds, slight dullness, and râles. Frank consolidation rarely develops. The disease lasts from several days to several weeks and the temperature falls by lysis.

In differential diagnosis, true influenza, psittacosis, pulmonary tuberculosis, and typhoid fever may be suspected.

Pneumococci found in the sputum of such patients may have no etiologic significance, but may, on the other hand, become invasive and cause superinfection, especially if pneumococci of types I, II, III, V, VII, VIII, or XIV are involved.

Treatment.—The treatment in most cases is symptomatic, supportive, and protective against superinfection. Patients should be isolated in separate rooms both to minimize the spread of their infection to others and to avoid infection of the patient with secondarily invading bacteria. Headache and aching may be controlled with codeine sulfate 0.03 to 0.06 Gm. ($\frac{1}{2}$ to 1 grain) by mouth. Aspirin, acetophenetidin, and aminopyrine are often contraindicated because of the diaphoresis they cause. Sweating is often an annoying symptom of the disease itself. An ice cap to the head may prove comforting. Cough is relieved by steam from a water vaporizer.

For severe intractable cough a solution of mono-P-chlorphenol 0.12 Gm. (2 grains) in 30 c.c. (1 ounce) liquid petrolatum may be sprayed into the trachea with an atomizer and a long bent tip, 3 or 4 times a day. Codeine or even morphine may be necessary in the most severe cases. For pain in the abdominal muscles from coughing, a snug abdominal binder may be used. Oxygen is helpful only when dyspnea and cyanosis are present.

Mild laxatives or enemas may be used as needed and the diet should be unrestricted, except if nausea, vomiting, or diarrhea are present.

Swabs conveying applications to the mucous membranes of the nose and throat cause discomfort and are not recommended. A gentle spray of warm, normal, physiologic salt solution and gargles of a mild solution of sodium perborate occasionally relieve the sense of dryness in the nose and throat. If the nares are obstructed, a spray of an aqueous solution of ephedrine or epinephrine hydrochloride permits comfort in breathing.

Sulfanilamide, sulfapyridine, or other compounds should not be used unless definite indications exist. If, for example, the patient suddenly becomes worse with chills, pain in the side, rusty sputum, leukocytosis, pulmonary consolidation, in other words, if the symptoms of lobar pneumonia develop, and if significant pneumococci are present in the sputum, the patient should, of course, be treated specifically both with drugs and with antipneumococcus serum.

HOBART A. REIMANN, M.D.

Bulletin No. 5

HEMOLYTIC STREPTOCOCCIC PNEUMONIA

A typical (broncho) pneumonia caused by the hemolytic streptococcus appears sporadically when the hemolytic streptococci which reside as commensals in the respiratory tract become invasive following a local diminution in resistance in the mucous membranes due to previous infection. The disease may become epidemic when measles or influenza, common predisposing causes, are prevalent. At such times the opportunities for the multiplication of hemolytic streptococci lead to the expulsion of enormous numbers of them in droplets of sputum so that the massive amounts conveyed to others might cause pulmonary infection even in persons without serious predisposing disease.

Invasion occurs through the bronchial walls and since the lymphatic circulation is extensive and the bronchial secretions poorly evacuated, infection spreads. Inflammation may extend to various portions of both lungs and pleurae.

The onset is ordinarily gradual following a preceding upper respiratory infection with fever, cough, prostration, and chilly sensations. Tachycardia, high remittent fever, and cyanosis are important features. Cough is productive of thin mucopurulent pinkish-red sputum in which hemolytic streptococci are predominant. Leukocytosis may or may not be present.

The physical signs vary greatly because of the atypical distribution and different degrees of confluence of the lesion in the lungs, with patchy areas of bronchial breathing, impairment of percussion note, and râles.

In favorable cases the temperature gradually diminishes over a period of one to two weeks and the symptoms disappear. Pleural effusion with thin serosanguineous pus occurs in from 50 to 75 per cent of the cases. While pericarditis, endocarditis, and peritonitis are not uncommon, bacteremia rarely occurs. The death rate varies from 35 to 60 per cent in different epidemics.

There is no value in specific serotherapy in the treatment of pneumonia caused by the hemolytic streptococcus. Chemotherapy with sulfanilamide or its compounds is more promising and should be tried. The treatment of the empyema which occurs is important in that aspiration should be performed only to relieve circulatory or respiratory embarrassment. "Closed drainage" should be reserved until the severe symptoms have abated and a certain number of adhesions have formed, in order to avoid the sudden changes in intrathoracic pressure which supervene when a large amount of fluid is withdrawn early in the disease.

W. PAUL HAVENS, M.D.

Bulletin No. 6

STAPHYLOCOCCIC PNEUMONIA

Atypical (broncho) pneumonia caused by the *Staphylococcus aureus* is characterized by a pneumonic lesion with miliary abscesses and supuration, usually occurring in patients with preceding upper respiratory tract infection or debilitating disease. The route of infection is bronchogenic and it is assumed that the staphylococci frequently found in the normal nasopharynx become invasive when the individual resistance is lowered. Pneumonia of this kind may occur sporadically or in epidemic form following measles or influenza.

Invasion occurs through the bronchial walls, spreading by way of the lymphatics and interstitial tissue to the alveoli. The bronchi are acutely inflamed and clustered around them are the pulmonary lesions, either massive or small sharply defined hemorrhagic areas of consolidation, which soften and break down, forming confluent abscess cavities full of pus.

The onset is ordinarily gradual, appearing in the course of an already existing disease; however, it may be abrupt with chills, fever, and pain

in the chest. Prostration and toxemia are usually severe. Cyanosis, cough, and dyspnea occur. The sputum is usually purulent, may be blood-streaked and contain staphylococci in predominance. Chills, sweats, and remittent fever are characteristic. Leukocytosis is the rule, but the count may be low. In patients who survive for 5 or 6 days the multiple abscesses may form and coalesce in the pneumonic area.

In the early stages of the illness the physical signs are of patchy consolidation; but as abscess formation progresses, the signs of cavitation with amphoric breathing, bronchophony, and coarse râles appear.

The course of the disease in favorable cases lasts from 1 to 4 weeks. In favorable cases the temperature gradually diminishes and the symptoms disappear. Empyema is the most frequent complication and relapse with spread of infection is not uncommon. Bacteremia is rare.

The features that distinguish staphylococcic pneumonia from other acute infections of the lung are (1) the presence of staphylococci in the lung, (2) the predominance of staphylococci in purulent sputum, (3) the remittent type of temperature, (4) the evidence of abscess formation, and (5) a high mortality rate.

Treatment consists solely in supportive measures with drainage of collections of pus which cannot be otherwise evacuated by aspiration or surgical procedures. Chemotherapy and serotherapy of all kinds have been uniformly disappointing.

W. PAUL HAVENS, M.D.

Bulletin No. 7

SELECTION OF THERAPY

The physician now has 2 effective and important proven remedies which are life-saving in the treatment of pneumonia after the diagnosis has been made. The earlier either serum and/or sulfapyridine is used, the greater is the patient's chance for recovery.

Sulfapyridine should be prescribed by the physician only when he fully understands the dosage and how it should be given as well as what toxic reactions to look for.

A number of physicians who treat pneumonia patients have experienced difficulty in the typing of pneumococci in sputum after sulfapyridine has been administered. This difficulty is probably due to the fact that a marked diminution in the number of pneumococcal organisms takes place whereby less bacteria are available for specific reaction.

Wherever possible, a specimen of sputum and blood for blood culture should be taken just before treatment is started.

Sulfapyridine alone is definitely indicated for all patients who give a history of asthma or other allergic reaction. Patients in extremis should be given sulfapyridine. Patients who have previously been given serum should be treated with sulfapyridine.

After the initial dose of sulfapyridine, when the patients show prompt improvement, it is likely that serum will be unnecessary.

Serum alone is indicated in all cases where sulfapyridine is contraindicated. The history of any severe anemia, impaired kidney function, cases with troublesome vomiting, particularly postoperative cases, and others where prompt response to serum alone occurs, should be treated as a rule with serum alone.

The combined use of sulfapyridine and serum is indicated in the presence of a profound pneumococcal bacteremia. Serum should be used in addition to sulfapyridine only when no definite improvement appears within 18 to 24 hours after beginning the use of sulfapyridine. Following this trial period both the drug and serum should be used.

Authorities suggest that with the combined use of serum and sulfapyridine the first dose of serum should be given 4 to 6 hours after the initial dose of the drug. In the Massachusetts program, at least 60,000 units are recommended for Type I infection, 60,000 to 90,000 units for Type VII, and at least 100,000 units for all the others. When serum and sulfapyridine are used together, it is suggested that one-half to two-thirds of the usually recommended serum doses will probably be sufficient.

Additional serum therapy may be required and must be decided in each particular case. The general condition of the patient, the temperature, pulse rate, and the blood count are important.

When additional serum is required, 40,000 to 60,000 units at a time are recommended. This additional serum should be given every 3 to 4 hours. The larger doses of serum should be given when there is evidence that the pneumonia is spreading.

All serum is given intravenously. It should be warmed to room temperature. A small dose of 1 to 2 c.c. should be given very slowly as a trial after the physician has satisfied himself that the patient is allergic to horse or rabbit protein. Serum should be injected no faster than 1 c.c. per minute. All syringes and needles should be thoroughly dry before being used.

The physicians of Pennsylvania are again

urged to fill in clinical report cards and send them promptly to the Division of Pneumonia Control of the State Department of Health. In this way every physician in Pennsylvania can do his part in lessening the number of deaths from this disease.

EDWARD L. BORTZ, M.D.

Bulletin No. 8

SULFAPYRIDINE SODIUM

Because of the extreme insolubility of sulfapyridine, its administration parenterally has not been practical. Within the past month there has become available a soluble salt of sulfapyridine, sulfapyridine sodium, which can be given intravenously or intramuscularly with comparative safety. This new preparation is a valuable adjunct in the treatment of pneumococcal pneumonia, especially in instances where it is difficult to obtain and maintain effective blood concentrations of blood sulfapyridine.

Indications for use: In patients who are not responding to oral therapy because of a poor absorption from the gastro-intestinal tract, excessive vomiting, or an inability to swallow the drug (e.g., delirium); also, in individuals with massive infections, where a rapid elevation of the blood sulfapyridine level is desired, and in patients suffering with gastro-intestinal lesions, as bleeding peptic ulcer, where oral administration is better avoided.

In preparing sulfapyridine sodium for parenteral use, the required amount of drug is weighed out and dissolved in enough sterile water to make the desired solution, depending on the route of administration. Since the drug is heat labile, it cannot be sterilized and the water to which it is added must be at a low temperature.

For intravenous administration a 5 per cent solution is used. Great care must be taken not to allow the material to escape from the vein as its high alkalinity is quite irritating to the perivascular tissues and will result in pain and induration with sloughing if allowed to escape. The dose for intravenous use is calculated on the basis of 0.06 Gm. of sulfapyridine sodium per 1 Kg. of body weight. This dose may be repeated from 6 to 12 hours, depending on the condition of the patient and the amount of sulfapyridine that can be tolerated by mouth. It is rarely necessary to give more than 2 injections of sulfapyridine sodium intravenously. The solution should be injected slowly at the rate of 5 c.c. per minute.

In giving sodium sulfapyridine intramuscularly, a 33 $\frac{1}{3}$ per cent solution is used. Intra-

muscular therapy is preferable to intravenous injection where it is impossible to supplement parenteral therapy with oral administration of the drug. Also, it is easier for general use and less liable to cause nausea and vomiting, and it gives an equally satisfactory concentration in the blood after several hours. It is important that the injection be given intramuscularly, in the buttocks, and not subcutaneously, as non-absorption and tissue necrosis may take place. A satisfactory scheme for adults is to give 4 to 6 injections of 3 c.c. at 4-hour intervals. These may be followed by smaller doses, if necessary, and oral therapy, if possible. The drug may be given to infants and children in appropriately reduced dosage.

HARRISON F. FLIPPIN, M.D.

Bulletin No. 9

THE COMMON COLD

The common cold as manifested in its initial stage by chilliness, sneezing, headache, dry skin, slight fever, and congestion of the nasal mucosa is responsible for an unusual amount of illness in the temperate regions of the world. No age group is immune, but children are particularly susceptible and it is in this group that the disease appears in its most virulent form. Although the common cold is most prevalent during the winter and spring, the milder seasons also have a share in its incidence.

It appears quite conclusively that the causative organism is a filtrable virus, but the disease itself is hardly distinguishable from that caused by the virus of human influenza.

Its infectious nature has been established beyond any doubt, and a person having recovered from a seizure apparently has an immunity of about 6 or 8 weeks' duration.

Prophylaxis resolves itself into the prevention of the more serious complications, as passive immunity to the common cold has not proved to be even moderately successful.

Since the disease is self-limited, the ideal treatment for the common cold is bed rest with an abundance of fluids. Orange juice and lemonade in generous quantities not only supply the fluid requirements but also aid in combating the acidosis coincident with the common cold; and since the appetite is generally diminished, the food value of these may be increased by the addition of small amounts of sugar. Soft foods are permitted as the symptoms diminish. The ambulatory patient is also decidedly less prone

to a long-continued course by adhering to this diet of soft foods and liquids.

The administration of a Stat. dose of 5 grains of Dover's powder at the earliest stage is not entirely outmoded, but whether or not an initial cathartic should be given is a moot question.

Discomfort which accompanies this illness, sometimes called "febrile catarrh," is frequently relieved through the administration of a capsule containing penacetin gr. 2½, acetylsalicylic acid gr. 5, and caffeine (alkaloid) gr. 1½.

Of the many preparations used as nasal sprays or drops for the relief of congestion of the nasal mucosa, a 1 to 3 per cent solution of ephedrine in physiologic salt solution is the only one which does not affect the cilia, thereby allowing the continued free drainage towards the nasal pharynx and nares. In order that free drainage from the sinuses may be facilitated without lessening the effectiveness of the ciliary activity, the above solution applied freely several times daily has been found to be most efficient. However, tissue engorgement and dilatation of vessels, which ultimately follow the use of ephedrine as well as the exploited benzedrine, bring up the question as to the advisability of their use.

The abortive effect, if used early in acute coryza, of papaverine hydrochloride and codeine sulfate in the amount of one-quarter grain each, given every 3 hours, and 2 doses at bedtime, is well established. Nausea, headache, and vertigo which sometimes accompany the use of this combination are of little importance since the spectacular disappearance of the nasal congestion and discharge affords such grateful relief to the patient.

THEODORE R. KOENIG, M. D.

Bulletin No. 10

INFLUENZA

When the term "influenza" is used, there comes to mind the classical picture of the acute fulminating disease which had such a vicious course in the great pandemic of 1918. There appears to be little difficulty in defining and in recognizing this disease as a clinical entity under such conditions. However, in the absence of an epidemic, the practicing physician repeatedly encounters patients who present all gradations from influenza to the condition popularly called a "bad cold." When does a "cold" become "influenza"? How may influenza be identified?

The causal factors in epidemic influenza have not been incontrovertibly established. For years

it was believed that Pfeiffer's bacillus, now called *Haemophilus influenzae*, produced influenza. Further studies showed that, although this organism is closely associated with the disease, it does not, in all probability, cause the disease. A virus was identified in association with clinical influenza over 10 years ago. Now at least 3 distinct viruses have been isolated. However, no incontestable proof exists that influenza can be produced in man by a virus. A further suggestion, based to some extent upon work done on hogs, is that the *haemophilus* and the virus, growing symbiotically, are necessary for the development of clinical influenza.

The positive identification of an isolated case of influenza by the practicing physician is by no means a simple matter. The borderline between influenza and "febrile catarrh" or "bad cold" or "acute upper respiratory infection" is not clear. Influenza often occurs in epidemics, but so does "febrile catarrh." Hence the epidemic character is of only relative diagnostic value. However, some assistance is afforded by the fact that when contact cases occur, secondary cases of influenza closely resemble the primary case, whereas the "febrile catarrh" contact cases vary markedly in clinical characteristics. The laboratory provides little help. The absence of a proven etiology has delayed the development of a simple test comparable to the throat smear for diphtheria or the Widal test for typhoid fever. Although a virus has been isolated in a large number of cases of epidemic influenza and although positive serologic reactions for antibodies have been found in many cases of convalescent influenza, these procedures are of little practical value as yet. Sputum analysis and throat cultures are not helpful. Blood counts and differential cell counts are of limited value.

One helpful differential point may be emphasized: In influenza the constitutional reaction appears first and the local signs come later, if at all, whereas in "febrile catarrh" there is an initial appearance of rhinitis or pharyngitis, the malaise develops gradually, and the fever rises slowly over a period of 1 to 2 days. An analysis of the clinical data affords the best indication for the probable diagnosis of this disease.

It should be noted that although over three-quarters of influenza patients have disturbances of the upper respiratory tract, influenza may occur without them. In general, influenza presents a sudden onset of ache, fever, and malaise. The patient appears drowsy. The eyes glisten and frequently there is an acute conjunctivitis. There may be a dusky malar flush and slight cyanosis of the lips. Later, if at all, appear the

rhinitis, the pharyngitis, or the dry hacking cough. The course of the disease is as impetuous as the onset. The fever is high for 2 to 3 days and then declines sharply. Frequently, there is a second peak on the fourth day followed by a rapid defervescence. The convalescent period may be unexpectedly prolonged and is characterized by inanition and easy fatigability, which may be reflected in a low blood pressure.

The prognosis is usually good. In the absence of complications, the acute phase passes in 3 to 4 days. However, complications are relatively frequent in occurrence. Invasion of the respiratory tract occurs commonly. Although simple rhinitis, pharyngitis, and tracheitis are most usually encountered, it must be remembered that perhaps the most dreaded complication is pneumonia. Invasion of the mastoid or accessory sinuses is not rare. Gastro-intestinal disturbances are not unusual during the course of influenza, but whether or not a true "gastro-intestinal influenza" occurs is a debatable point. Invasion of the meninges may occur and influenzal encephalitis probably also exists.

The invasion of these several body surfaces by the influenzal agent alone possibly does take place, more especially in the course of severe epidemics when its virulence is high. However, the vast majority of complications of influenza, whether respiratory, pulmonary, or meningeal in character, are usually due to secondary invasion by the streptococcus, pneumococcus, meningococcus, staphylococcus, or virus of encephalitis lethargica. It seems to be true that an influenzal infection greatly lowers the resistance of the body to such secondary invaders which in turn become increasingly virulent in nature.

(To be concluded in Bulletin 11.)

JAMES M. STRANG, M.D.

Bulletin No. 11

INFLUENZA (Concluded)

Since influenza is a self-limited disease of undetermined etiology which last only 3 to 4 days, it is obvious that the indications for treatment are (1) relief of symptoms, and (2) prevention of complications. At present, no antiserum is available. Likewise, none of the sulfanilamide series of drugs has been proven to be effective, and in view of the morbid character of these drugs, the benefit from their use is very questionable. For the milder cases, simple procedures such as rest in bed with plenty of hot water bags and hot drinks are all that is necessary to relieve the symptoms. For moderately

severe aching, the analgesics such as aspirin, amidopyrine, etc., are sufficient.

The more intense symptoms may require the combination of codeine or morphine with the salicylates. Morphine or dilauidid hypodermically is rarely required. Mild sedation to promote sleep is often helpful. After the initial discomfort has been relieved, comparatively small doses of these drugs suffice to keep the patient comfortable.

Good nursing care is of prime importance and does much to relieve distress and avoid sequelae. In an illness of such short duration, many nutritional factors may be neglected. However, it is always desirable to supply ample fluids and an abundance of carbohydrate in its simple forms.

When the toxicity is high and the gastrointestinal tract irritable, intravenous glucose solutions may have a marked sedative effect. Attention to the elimination is also important, and, if there has been no bowel movement for a day or more, a mild cathartic or enema is in order at the outset, but excessive purgation is a questionable procedure, not only because of the disturbance of the intestinal tract but also because of the excessive and undesirable exposure to which the patient is doomed. It is of greater importance to secure good elimination after the acute phase has passed in order to get rid of residues of the medicaments which have been employed.

The tendency of influenza to develop into epidemic proportions is a matter of considerable importance. Certainly the fulminating cases seem to have definite epidemic properties. In such cases, at least, it is necessary to institute precautions against spread. Isolation of the patient and the usual precautions against droplet infection are in order. In this connection, attention should be given to the possibility that droplet infection by way of the conjunctiva is a true danger. Certainly, in epidemic times, the protection of the eyes may be of importance. It is very questionable whether the local application of antiseptics to the mucous membranes of patient or attendant is of prophylactic value. Active immunization of exposed persons is at present not a practical procedure. Unquestionably, the chief method of spread of infection is by way of apparently healthy carriers and ambulatory mild cases.

In the absence of the emotional instability usually associated with severe epidemics, little co-operation toward segregation of these patients can be expected from even the moderately intelligent members of society.

JAMES M. STRANG, M.D.

Bulletin No. 12

PLEURISY

With Special Reference to Its Relationship to Pneumonia

Pleurisy is an inflammation of the pleural membranes and may appear in 3 clinical forms: (1) acute fibrinous pleurisy (dry pleurisy); (2) acute serofibrinous pleurisy (pleurisy with effusion); and (3) empyema. Occasionally a fourth type is found, when, as a result of recurring attacks of acute pleurisy, empyema, or adhesions, a chronic condition results which is classified as chronic pleurisy. An attack of acute fibrinous pleurisy may gradually pass into the other types of the disease.

Etiology.—Pleurisy may be either a primary disease of the pleura or secondary to disease of the lungs, to a generalized infection, or to an infection of more remote organs of the body. Primary pleurisy is extremely rare and may be caused by trauma to the chest or exposure to cold. Primary pleurisy should never be diagnosed until tuberculosis, pneumonia, or more remote infections have been carefully ruled out. The most common cause of pleurisy of any type is pulmonary tuberculosis. The second most common cause is pneumonia. Less frequently, bronchiectasis, lung abscess, pulmonary infarcts, mycotic infections, and neoplasms may produce the condition.

Signs and Symptoms.—Pleurisy is so common in pneumonia that it is considered a part of the disease. The onset of pleurisy is usually sudden with a cutting or stabbing pain in the chest that is worse on deep inspiration, by coughing, or by changing the position of the body. It is generally found in either axilla below the angle of the scapula. It sometimes occurs in other parts of the chest depending on the location of the underlying pneumonic process. Pleurisy involving the diaphragm may give referred pain to the neck, lumbar region, and various parts of the abdomen, sometimes simulating acute cholecystitis, acute appendicitis, or other infections of the abdomen. A dry cough usually accompanies the condition. The respirations become more rapid and shallow and the temperature becomes increased as a result of the pleurisy.

Of the physical signs, a friction rub synchronous with respirations occurs at the site of the pain and may be found in a high percentage of patients with pleurisy. The sign occurs only during the acute fibrinous stages of the disease, disappearing as soon as the condition subsides or when pleural effusion separates the pleural surfaces. There is a diminution of the respiratory

excursion on the affected side due to the so-called "splinting" of the chest wall. There is frequently some diminution in breath sounds and of tactile fremitus over the affected area, but an underlying pneumonia may modify these signs. The development of pleural effusion is recognized by the marked lessening of pleural pain and disappearance of the friction rub along with the presence of the usual physical signs of fluid in the chest.

A roentgenogram of the lungs is of considerable value in establishing the diagnosis. Pleural effusion in the presence of pneumonia is a source of concern to the physician as it can readily develop into empyema. If pleural effusion develops, it is advisable to carry out a diagnostic aspiration if the patient does not continue to make constant clinical improvement and if after one or more days of lowered temperature there is an increase of the fever, particularly of the septic type. If the fluid recovered is straw-colored, is clear or only slightly turbid in appearance, and on microscopic examination shows only a few white cells, the condition is sero-fibrinous pleurisy. If the fluid is milky and the microscopic examination shows that the marked turbidity is due to pus cells, the condition is empyema.

In patients with pneumonia complicated by pleural effusion, it may be necessary to repeat the thoracentesis one or more times in order to follow the course of the disease and to recognize empyema when it develops.

(To be concluded in Bulletin 13.)

WENDELL J. STAINSBY, M.D.

Bulletin No. 13

TREATMENT OF PLEURISY

Acute Fibrinous Pleurisy

If the pain is mild, the best treatment is either the old-fashioned mustard plaster or a hot water bottle or electric heating pad. For the more severe pleuritic pain adhesive strapping is very effective. The adhesive strips for that purpose should be about $2\frac{1}{2}$ inches wide and long enough to extend 2 inches beyond the mid-line of the back to 2 inches beyond the mid-line in front when placed in position. In applying the adhesive, the chest should be in full expiration, beginning the application across the vertebral column, tightly around the chest wall at slight angle to the vertebral column, and beyond the mid-line in front. Usually 3 or 4 strips are necessary and the later strips should overlap the preceding ones by at least one-third their width.

It is very important to shave hairy chests before applying the adhesive. The female breast may be protected by pushing the breast upward and, if the nipple is to be covered, a small pad of cotton should be placed over it before applying the adhesive. Pleuritic pain in the upper part of the anterior chest can often be relieved by applying adhesive strips in a similar manner in the region of the third and fourth ribs anteriorly across the shoulder to the spine of the scapula.

If the adhesive does not relieve the pain of pleurisy, narcotics may be used. Codeine sulfate in doses of one-half grain by mouth for adults every 3 to 4 hours will usually suffice, or if the patient cannot take the drug orally, it may be given hypodermically. If codeine does not suffice, morphine in one-fourth grain doses may be used.

It must be remembered that the narcotics suppress the coughing reflex, and while this may be desirable if the patient has an unproductive cough that is sapping his strength, it is definitely harmful if it prevents him from bringing up the pneumonic exudate. Because of this, the narcotics must always be used with great care, never thoughtlessly and without full realization of their various pharmacologic effects.

The diet of the patient in the main should consist of liquid foods, and should be modified to suit the taste of the patient and the capacity of the stomach to digest it. As the disease in all likelihood will be of short duration, it is not necessary for him to take his normal caloric requirement if he does not feel like doing so.

The bowels should move every day or every other day by means of mild cathartics or enemas. Strong cathartics that produce several watery movements are weakening to the patient and should be avoided.

The patient should be kept in bed.

Pleurisy with Effusion.—Pleurisy with effusion complicating pneumonia requires very little specific treatment. If it produces dyspnea and circulatory distress purely from the volume of a large amount of fluid, the fluid should be removed. It is advisable not to take more than 1500 c.c. at any one time.

A salt-free diet, restriction of fluid intake, external applications to the chest wall, and diuretics have no appreciable influence in removing pleural effusion complicating pneumonia and should be avoided.

Empyema.—Once a diagnosis of empyema is made, it is time to have a surgical consultation and the patient from then on followed by both the physician and surgeon.

No convincing evidence has yet been presented that specific therapy such as sulfapyridine, sulfanilamide, or antipneumococcus serum has any appreciable effect on empyema whether or not the etiologic agent is a pneumococcus or the hemolytic streptococcus, although these specific therapeutic agents will greatly diminish the incidence of empyema if used for the underlying pneumonic process before the development of this complication.

Empyemas have been cured by repeated aspiration of the pus, but such results are rare. In most cases, drainage by surgical means will be necessary. It is well to remove the pus by aspiration every couple of days or so until it becomes frankly purulent before surgical treatment is begun.

WENDELL J. STAINSBY, M.D.

Bulletin No. 14

EMPHYEMA

Empyema, or purulent pleuritis, is the most common complication of lobar pneumonia. Eight per cent of all untreated pneumococcic pneumonias develop this complication. It is encountered particularly in those cases with early severe and constant pleuritic pain. Types V and I pneumococcic infections give the highest incidence, with Types III and II next in order. It is seen twice as commonly in lobar pneumonia as in the atypical forms. True streptococcic and staphylococcic pneumonias give a very high incidence, probably over 50 per cent. Adequate therapy consisting of sulfapyridine, serum, or a combination of both should reduce the incidence of this complication. With sulfapyridine therapy a greater incidence of large sterile effusions has been reported. These are probably due to aborted empyemas.

There is usually a small pleural effusion with pneumonia. When it first becomes infected it is thin, but contains organisms, red and white blood cells. It then increases in amount and gradually becomes thicker until it has a creamy consistency and is yellow or greenish yellow in color. It then contains organisms, cells, cellular debris, and fibrin.

The death rate among untreated patients with empyema as a complication averages about 38 per cent. The later the complication the better the prognosis until in the largest group—those that develop empyema after the fourteenth day—the mortality is as low as 23 per cent.

Symptoms.—Diagnosis of empyema that develops during the acute stage of pneumonia is often very difficult. It requires close observation

and careful daily examination of the chest. There may or may not be increase in pulse and temperature. There may be unusual sweating and chilliness.

If the complication develops about the time of crisis or later, there is usually a period of improvement followed by an upward swinging temperature accompanied by symptoms of septic infection. There may be a continued elevated leukocyte count following crisis or, more commonly, a fall after crisis toward normal, followed by a second rise. Cough and pain in the chest may be present.

Physical Findings.—They are practically those of pleural effusion, i.e., diminished expansion of the affected side, absent tactile and vocal fremitus, flat percussion note, and absent breath sounds. It must be remembered that a thin layer of effusion over a consolidated lung may transmit fremitus and bronchial breath sounds. Unless the empyema is loculated, there will be shifting dullness to percussion. The diagnosis is confirmed by roentgenographic examination and thoracentesis. All fluid removed should be cultured and the sediment smeared and stained for organisms.

Treatment.—When organisms are present in the aspirated pleural effusion, the collection should be repeatedly removed by thoracentesis. The fluid in pneumococcic empyema will rapidly become purulent and fibrinous and tend to become walled off in pockets. When this occurs, surgical drainage is necessary. Thoracotomy and rib resection giving free and open drainage should prevent the walling off of pockets.

Streptococcic and staphylococcic empyemas may be treated for a longer time by aspiration as the fluid has less tendency to become thick. These cases may require intervention because of the severity of the infectious process, and closed drainage should then be employed. It must be remembered that certain cases clear up on aspiration alone. Sulfapyridine and rabbit antisera have questionable value in localized septic foci. All patients should receive a high vitamin, high caloric diet.

D. SARGEANT PEPPER, M.D.

Bulletin No. 15

THE NEED FOR EARLY SPECIFIC THERAPY IN PNEUMONIA

A great deal of information concerning the treatment of pneumonia has been written, and a great deal has been learned recently about this serious disease. Almost all this information has originated in large medical centers, and is the result of work performed in large clinics under

exceptionally well-controlled conditions. It seems quite fitting, therefore, that a survey of cases occurring in general practice should be made so that we may see just how practical these newer methods of treatment are to the general practitioner. For this reason the Subcommittee on Statistics of the Commission for the Study of Pneumonia Control made a survey for the season of 1938 and 1939, and as a result of this survey 5977 cases of pneumonia were reviewed. These cases, for the most part, came from general practice—cases that otherwise would never reach statistical literature. From this survey several important facts were elicited.

In this large group of cases one very sad fact was uncovered, i.e., about 50 per cent did not receive any specific treatment, nor was any attempt made by the attending physician to institute specific therapy. The mortality rate for this group of untreated cases was 30.83 per cent.

Going now from this state of affairs to a more favorable situation, we find that 908 patients received specific antipneumococcic serum with a gross mortality of 17.84 per cent. Another 1131 of the cases reviewed received sulfapyridine with a gross mortality of 10.69 per cent. There were 591 cases in which attempts were made at specific treatment. These patients received sulfanilamide or combined therapy of serum and sulfanilamide or sulfapyridine. The gross mortality for this group of cases was 15.39 per cent.

The study also proved the importance of starting treatment early. The following table shows how the mortality rate increases with each day that specific therapy is withheld:

Day of Disease	1st	2nd	3rd	4th	5th plus
Specific therapy .	10.11%	11.25%	13.33%	14.40%	20.00%
Nonspecific therapy .	33.79%	16.36%	23.76%	25.00%	30.59%

This table proves not only the value of specific treatment—because, as one sees, if it is withheld, the mortality increases markedly—but it also shows beyond the shadow of doubt that the earlier treatment is started, the more favorable the prognosis.

In our survey 109 patients were treated with a combination of sulfapyridine and specific antipneumococcic serum. Of these cases in which such treatment was begun on the first day of the disease, not one patient died. This is the goal toward which we are all striving. It proves that early specific treatment is needed.

On the other hand, our survey demonstrated that when serum, either alone or combined with

sulfanilamide or sulfapyridine, was withheld longer than 3 days, it did not greatly lower the mortality rate regardless of what dosage was used. Therefore, we must type cases early and use serum early to get its valuable, life-saving effect.

The following table shows the mortality rates for typed and untyped cases that received specific treatment and those that received non-specific treatment:

Treatment	Specific	Nonspecific
Typed cases	11.61%	21.13%
Untyped cases	12.73%	37.58%

Here again we see the value of typing and adapting specific therapy to pneumonia patients over the blind, nonspecific methods.

Briefly, then, what have we learned from this survey?

1. Every case of pneumonia should be typed.
2. Every case of pneumonia should receive the benefit of specific therapy, either specific antipneumococcic serum, sulfapyridine, or a combination of the two.
3. Every case should be treated as early in the course of the disease as possible.
4. Every case should be reported, otherwise statistics such as have just been cited will not be available, and the blind treatment previously prevalent may still be in evidence.

CHARLES WM. SMITH, M.D.

Bulletin No. 16

NEED OF ACCURATE PNEUMONIA STATISTICS

Difficulties in Collection

Statistics are wont to be rather dry fare for the average man, whereas the tempo of the collectors of such statistics is apt to be too enthusiastic; but somewhere between these 2 points is good solid ground where all may gather and reap the benefits derived from their united efforts.

The findings submitted by the subcommittee are of particular value to the average physician, because these data are representative of a cross section of physicians in general practice who meet and treat pneumonia very successfully, but whose cases would otherwise almost never become part of general statistical literature.

These studies may be of particular value now because, with intelligent interpretation, the results obtained will go a long way in proving or disproving the value of several therapeutic procedures now in operation. We should consider that almost any medical problem could be solved

if a sufficient number of enthusiastic physicians would continually pull together and pool their efforts for the common good. Any study originating in a well-controlled clinic is of prime importance and the results of such study are enthusiastically and gratefully received by the profession, but, after all, it seems to be very desirable to follow up and ascertain, if possible, just what the physicians in the field are doing about it, and what part of such studies they find practical and workable in their far-flung and, in the aggregate, enormous practice.

It is estimated that 38,500 cases of pneumonia occur annually in Pennsylvania. During a period of 18 months, from January, 1938, to July, 1939, your committee, with great effort, was able to record some 6000 cases. It behooves us all to support the work now being undertaken by the State Department of Health's Pneumonia Division under the able direction of Dr. Dale C. Stahle. Physicians are apparently reluctant to report the results in their private cases, and it is here that we believe your committee will be of some value. We are going to make a special effort to include these private cases so that their great value may enhance the splendid and far-reaching study now being compiled by Dr. Stahle.

We appreciate the difficulties met in the collection of any statistics bearing on medical problems when such statistics are to come from the busy practitioner who hardly finds time in any day for his routine duties, and often winds up a day dog tired and thinks of any statistical study as only another form in a multitude of forms waiting to be filled out.

The paucity of adequate records in home-treated cases is a great drawback. But the greatest problem of all is the occasional chairman of a county medical society committee on pneumonia control who is disinterested. This man must become interested, or, finding it impossible or inconvenient to be so, then he should resign in favor of a member who will carry on.

Pneumonia has become a veritable wastebasket as the given cause of death. Perhaps some very important work will soon be done in separating and cataloging real pneumonia cases from those cases so labeled which in the final diagnoses have shown secondary or terminal lung pathology.

The great service rendered to the medical profession and to the citizens of Pennsylvania through our State Medical Society's Pneumonia Control Commission will become apparent in 1940—doubtless a year with increased incidence of pneumonia to be marked, we are confident,

by the already predicted lower mortality rate that will go a long way in making "Pennsylvania Lead in Pneumonia Control."

CONSTANTINE P. FALLER, M.D.

Bulletin No. 17

MODERN PNEUMONIA TREATMENT IN THE HOME

No more than one pneumococcus pneumonia patient out of 20 should die if proper use is promptly made of modern therapeutic measures.

Remoteness from a hospital or medical center should not appreciably increase this mortality rate.

Treatment in a hospital may be easier and more convenient for the physician. If the patient is seen before he is very seriously ill, and if hospitalization and transportation facilities are available, removal to a hospital is probably desirable. The exertion of hospitalization may constitute a serious hazard for the very ill patient.

Rest may be as readily possible at home as in the hospital, and requires only a comfortable bed, quiet, and exclusion of visitors. When, by reason of necessity or election, treatment is undertaken at home, the patient need be deprived of none of the modern antipneumonia measures, save possible surgery when needed for drainage of empyema cavities. The essentials of treatment are the same at home as in the hospital—rest, nursing care, and controlled use of specific measures.

Nursing care is indispensable and a registered nurse is desirable. However, if not obtainable, a sensible practical nurse may prove of great assistance, and even members of the family can be instructed as to providing uninterrupted rest, forcing fluids, administration of medications, sponging the patient, etc. In most communities, in addition, visiting nurses may be called upon to visit the patient once daily—give general bed care, enemata, record temperature, and pulse and respiratory rates.

The *specific measures* may be just as easily applied at home. To be sure, modern treatment requires laboratory control and unless the physician happens to be equipped to carry out these procedures in his office, specimens will have to be taken to a laboratory or pneumonia control station. At present, no part of the state is far removed from a laboratory which will perform the necessary tests for the pneumonia patient whether or not he is able to pay for them. The busy practitioner, particularly in rural districts, cannot be expected to spend time and effort

carrying specimens back and forth to the laboratory. Pneumonia is a serious disease and laboratory procedures are vital. If this is made clear, there should be no difficulty in pressing into service relatives or friends as messengers definitely on call.

As soon as rather definite symptoms of pneumonia appear, a messenger should be dispatched with the following objects in view: obtaining drugs, sputum typing, and materials for blood culture, blood counts, blood sulfapyridine test, and urinalysis.

Sulfapyridine, at present the drug of choice, may either be purchased from a pharmacist or procured from a pneumonia control station. The State Health Department is very anxious that no pneumonia patient be deprived of this drug because of inability to pay, and the pneumonia control station will give a supply to the physician or his authorized messenger, asking in return only a clinical report on cards supplied by the state.

Sputum for *typing* should be taken to the laboratory by the messenger on the same trip, or if sputum is not yet available, he should stop at the laboratory for a sterile container in which to collect the sputum when he returns.

Convenient *blood culture* vials, requiring only a sterile needle and syringe, for taking blood cultures are supplied by the state. The messenger should procure one of these or some other satisfactory type of blood culture vessel on the same trip, and the physician should return to the patient and take the blood culture before any *sulfapyridine* is administered. When the culture is returned to the laboratory, it should be carried in a vest or inside coat pocket to avoid chilling.

If State Health Department facilities are being used, containers for specimens for *blood counts* and *urinalyses* should also be obtained, since daily leukocyte counts and hemoglobin determinations and frequent urinalyses are important if toxic effects from sulfapyridine are to be detected before they are of major proportions.

The typing of the sputum is particularly important and, of course, a necessity if *serum* is to be used. If sputum was not available at the onset, it should be typed immediately when available. If this is done the type will be known early, and if response to sulfapyridine is not satisfactory after 12 or 18 hours, serum can be used without delay and lives will be saved. Positive blood cultures will supply the type in some cases in which sputum is not obtained. In other cases cultures from the throat will yield organ-

isms which may be typed, though this information will not be as quickly available.

If the *administration of serum* seems indicated because of either unusual severity of the case or of failure of desirable response to sulfapyridine, serum may likewise be given safely at home, exercising the usual precautions and tests to detect serum sensitization and by having epinephrine at hand. Serum for all types of pneumonia is made available by the state for any patient for whom its purchase would be a financial hardship.

In conclusion, the modern specifics against pneumococcus pneumonia are available to everyone, and can and should be used and their use properly controlled by laboratory measures *whether or not the patient is hospitalized and whether or not he can pay for these services*. The application of these measures requires only a minimum of added effort on the part of the physician, an effort which is absolutely necessary if the greatest number of lives are to be saved and if Pennsylvania is to continue to lead in pneumonia control.

KENNETH E. QUICKEL, M.D.

Bulletin No. 18

SULFATHIAZOLE

The discovery of the effectiveness of sulfapyridine in pneumococcal infections has reopened the entire field of chemotherapy in pneumococcus pneumonia. Within the past 2 years numerous clinical reports unquestionably have established the therapeutic effectiveness of sulfapyridine in this type of pneumonia. However, it is generally recognized that sulfapyridine therapy is not ideal because of certain toxic effects associated with its use.

During the past few months there has become available for clinical trial a new sulfanilamide derivative, sulfathiazole, for the treatment of pneumococcus pneumonia. Within this time the number of encouraging reports from all sections of the country leads us to believe that the enthusiasm which attended the successful use of sulfapyridine in this disease is rapidly being transferred to the newer compound.

Sulfathiazole, 2-(p-aminobenzenesulfonamido)thiazole, is the thiazole analogue of sulfapyridine. It has been shown that sulfathiazole is more rapidly metabolized by mice, rats, and monkeys and undergoes less conjugation in rats and monkeys than sulfapyridine; also, that the drug, when administered to mice with their food, was no more toxic than sulfapyridine if the dose was kept at therapeutic levels. Furthermore, sulfa-

pyridine given to rats and monkeys for 14 to 57 days was found to be more toxic than sulfathiazole. The principal toxic effect was the occurrence of albumin, blood, and crystals of the drug in the urine of some animals. The therapeutic effectiveness of sulfathiazole against experimental pneumococcal infection has been demonstrated to equal that of sulfapyridine.

In a recent report by the Philadelphia General Hospital's Pneumonia Committee (*Amer. J. Med. Sci.*, March, 1940) it was found that sulfathiazole was absorbed more rapidly than sulfapyridine from the gastro-intestinal tract and was excreted more rapidly in the urine. Following the intravenous administration of a 5 per cent solution of sulfathiazole sodium, recovery of the drug in urine was practically quantitative. Absorption of sulfathiazole sodium by rectum was slow, and only 10 per cent was found in the urine within 24 hours. Concentrations of free sulfathiazole in the blood averaged 5.4 mg. per 100 c.c., and the average concentration of conjugated sulfathiazole was 1.3 mg. per 100 c.c. Concentrations exceeding 4 mg. per cent of conjugated sulfathiazole were observed in only a few patients, and in each case high values for this fraction were associated with severe illness. Although the work on animals suggested that sulfathiazole was not conjugated to the same extent as sulfapyridine, this has not been uniformly true in humans, although in most of the patients the per cent of conjugation has been lower than that observed with sulfapyridine. This correlation is of interest in connection with the suggestion of many workers that a rise in conjugated sulfapyridine may serve as a warning of danger, and there is reason to believe that high levels for this factor are frequently associated with the severe manifestations of sulfonamide therapy.

The instance of untoward toxic effects from sulfathiazole therapy is, in general, comparable to that associated with sulfapyridine. The most frequent untoward effects of both drugs are nausea and vomiting, hematuria, dermatitis, drug fever, and psychoses. The vomiting associated with sulfathiazole is unlike the severe and persistent vomiting caused by sulfapyridine; it is mild and infrequent, occurring in about 20 per cent of patients as compared to 60 per cent treated with sulfapyridine. Microscopic hematuria is observed in about 9 per cent of patients treated with sulfathiazole, as compared to approximately 10 per cent of those treated with sulfapyridine. The possibility of serious renal damage from sulfathiazole must be borne in mind in light of the experimental reports and

from our experience with other members of the sulfonamide group of compounds. The other toxic manifestations appear to be about equal in instance and severity.

HARRISON F. FLIPPIN, M.D.

Bulletin No. 19

THE TREATMENT OF PNEUMOCOCCUS PNEUMONIA WITH SULFATHIAZOLE

From the clinical standpoint there have been no reports in the literature as yet regarding the therapeutic effectiveness of sulfathiazole in pneumococcus pneumonia. In a recent paper (in press, *Annals of Internal Medicine*) by the Philadelphia General Hospital's Pneumonia Committee presented before the American College of Physicians, it was pointed out that sulfathiazole appears to be just as effective as sulfapyridine in the treatment of patients suffering from pneumococcus pneumonia. These workers stated that sulfapyridine appears to be the faster acting drug, as evidenced by the critical fall in temperature within 24 hours. However, at the end of 72 hours the effect of both drugs on the temperature was practically the same. With either drug the drop in temperature was usually accompanied by a corresponding subjective and objective improvement of the patient. Furthermore, the average stay in the hospital was the same for both therapeutic groups, 13.2 days. The incidence of complications was low and approximately the same in both the sulfathiazole and sulfapyridine treated patients.

Dosage.—An initial 3 Gm. dose by mouth is repeated in 4 hours, then followed by 1 Gm. every 4 hours until the required total dosage has been given. Treatment is continued until the temperature remains normal for 48 hours, along with evidence of definite clinical improvement. In general, the total dosage ranges between 24 and 40 Gm., depending on the physical and laboratory findings in each case. In certain instances, when a rapid elevation of the blood level of the drug is desired, a 5 per cent solution of sodium sulfathiazole (0.06 Gm. per kilogram of body weight) in sterile water is administered intravenously as a supplement to oral therapy. One intravenous dose is usually sufficient to raise the blood level of free sulfathiazole to 8 mg. per 100 c.c.

Since sulfathiazole is more soluble in an alkaline urine, it is desirable that the patient receive with each dose of the drug equal amounts of sodium bicarbonate or sodium citrate. The pos-

sibility of serious renal damage from sulfathiazole must be borne in mind and it is important that the patient receive at least 2500 c.c. of fluids every 24 hours. As with sulfapyridine, it is important that all patients receiving sulfathiazole be followed closely, with frequent blood counts and urinalyses for detection of possible untoward toxic effects.

It is important that all newer compounds be tested carefully in the clinic before being introduced as products superior to those which are now available. For this reason sulfathiazole is still being studied clinically and has not been released by the Federal Food and Drug Administration in Washington. However, numerous personal communications from clinicians from all sections of the country suggest that the therapeutic effectiveness and relatively low toxicity of this new substance will, in all probability, result in its widespread use in the future.

HARRISON F. FLIPPIN, M.D.

Bulletin No. 20

SUMMARY

This is the twentieth and concluding bulletin of Series 2, being published for the doctors of medicine in Pennsylvania, by the Commission for the Study of Pneumonia Control of The Medical Society of the State of Pennsylvania (9300 members). The first and second series collectively number 50 bulletins. All of the important phases of pneumonia as a group of diseases, with detailed discussions of the etiology, symptomatology, differential diagnosis, and all of the various forms of treatment have been discussed by various outstanding authorities on the subject. In addition, pneumonia as a public health problem and as it relates to the various regions of the state of Pennsylvania has been kept in mind in these bulletins.

Due to the whole-hearted response on the part of the physicians throughout the Commonwealth of Pennsylvania, i.e., the general practitioners who see by far the great majority of patients with pneumonia and who have availed themselves of the latest scientific methods of diagnosis and treatment, the mortality rate from pneumonia has shown a spectacular decline during the past 5 years.

During the past year the Division of Pneumonia Control was created by John J. Shaw, M.D., Secretary of Health, with Dale C. Stahle, M.D., as the director. Distribution centers have been set up in all the principal localities of Pennsylvania where the facilities of the State Depart-

ment of Health are made readily available to practitioners of medicine 24 hours a day.

These stations act as diagnostic centers where physicians may send sputum or blood for typing and where they may also have concentrations of sulfapyridine in the blood made when indicated. Furthermore, on short notice, the State Department of Health has made available all of the various kinds of therapeutic sera and likewise adequate quantities of sulfapyridine for the treatment of patients.

Red tape has been eliminated in an effort to cut down the time period between the moment when the physician calls to see the patient and the case is accurately diagnosed and adequate modern methods of treatment are instituted. This Pennsylvania plan for pneumonia control, which was developed under the Secretary of Health with full co-operation of representatives of the State Medical Society, bids fair to become an example for other states to emulate. Typing and distributing centers are under instructions to give every possible assistance to physicians who are treating patients with pneumonia. All that is asked in return from the physicians is that a form be filled out describing their experiences in handling each patient so treated.

In order to understand the extent of the pneumonia problem in Pennsylvania, statistics are an essential part of the program. As each physician sees on an average not more than 6 or 8 cases of pneumonia per season, it should not be a hardship for him to lend his utmost co-operation in filling out the blanks and forwarding them to the Division of Pneumonia Control of the State Department of Health. That the physicians of the state are cognizant of their responsibility in the collection of statistics is proven by the fact that in the 1939-1940 campaign more than 4 times as many cases were reported as for 1938-1939.

The earlier a patient with pneumonia calls his physician, the better are his chances for survival. Therefore, it is important that the laity understand the value of consulting their physicians promptly when any troublesome respiratory tract infection develops. The public should know this. An important new Department of Health division—Education for the Laity—created by Dr. John J. Shaw, with Mrs. Edna Kech at its head, has been working in close co-operation with members of the State Medical Society's Commission for the Study of Pneumonia Control and with similar county medical society committees. It is estimated that approximately 200 meetings for the laity have been organized and addressed by authorities on pneu-

monia throughout Pennsylvania since the 1939-1940 campaign has been in effect. Qualified speakers have appeared before college audiences, women's clubs, labor organizations, social groups, and forums together with a host of other important lay groups for the purpose of telling them the thrilling story of pneumonia control and what can be accomplished, and, incidentally, pointing out the part that the laity must play in an effort to reduce the mortality rate.

The control of pneumonia today is one of the major responsibilities of the medical profession in Pennsylvania. The officers and Board of Trustees of The Medical Society of the State of Pennsylvania have fully realized the extent of the problem and have lent every assistance to the Commission for the Study of Pneumonia Control of the State Medical Society in carrying on the campaign. Especial thanks are due the secretary of the State Medical Society, Dr.

Walter F. Donaldson, who has been an invaluable ally in planning details of the work and supervising the publications of the bulletins.

The commission desires to thank the members of the 60 county medical societies' committees, numbering in all more than 250 members of organized medicine, who have played such an important part in the work. The chairman of the commission is grateful to his colleagues of the commission for the generous manner in which they have repeatedly responded to his requests for action. And finally, the chairman wishes to thank the army of general practitioners in whose hands the implements of modern medical science have been so responsively adapted to the saving of many lives in Pennsylvania.

PENNSYLVANIA LEADS IN PNEUMONIA CONTROL!

EDWARD L. BORTZ, M.D.

APPENDIX A

Future Plans

The groundwork has been completed and plans have been drawn up by the State Medical Society and the State Department of Health working in close co-operation to bring about a still greater reduction in the mortality rate from pneumonia. The 2 individuals upon whom the success of this campaign depends are first, the family physician, that is, the man who sees the patient, and second, the patient himself.

Education of every physician in the state is important. The average case of pneumonia is not difficult to diagnose. When in doubt the physician should seek consultation, particularly in all cases where improvement does not take place from accepted and recommended courses of treatment. A consultation service should be organized in every county for the assistance of physicians who may need aid in caring for difficult pneumonia cases. The State Medical Society has issued 50 bulletins of an educational nature that ought to be read by every practicing physician. Further bulletins will be issued in the future only when important new information bearing on pneumonia is obtained or when statistics of value are available.

There are 170 typing and distributing centers throughout the commonwealth which have been created by the State Department of Health solely for the purpose of aiding the physicians who see the patient suffering from pneumonia. Each physician who treats a pneumonia patient has all of the facilities of organized medicine and the State Department of Health at his disposal for his patient's welfare. If any particular need arises in the care of a case and the physician will communicate directly with the Division of Pneumonia Control in Harrisburg, Dr. Stahle will be happy to do his utmost in assisting the physician.

The matter of the collection of statistics is always a troublesome problem, particularly with the busy physician. Nevertheless, each physician should be able to fill out the simplified card which Dr. Shaw has asked to be distributed with the chemotherapeutic agent or serum that is used in the treatment of patients who cannot afford to pay. These cards are likewise available for those in the upper income brackets, and it is the hope of the officials that every pneumonia case will be reported directly to the Division of Pneumonia Control. Hospital staffs, in general, have been most co-operative and the Department of Health is duly grateful to them. The majority of physicians throughout the state have

likewise been most helpful in assisting this important campaign.

During the coming year special refresher courses will be given in certain regions of Pennsylvania, and in other places round-table conferences will be organized. Wherever county medical societies desire, the commission working with the Division of Pneumonia Control will be glad to arrange specialized courses of instruction to meet the needs of the particular community.

The earlier patients summon their physicians, the better the opportunity will be for making a prompt and early diagnosis. Health education of the laity has taken on a new significance now that spectacular curative remedies are available. Through Dr. John J. Shaw's foresight, a Division of Health Education for the laity has been organized and Mrs. Edna M. Kech, of Altoona, has been appointed directress in charge. This department aims to co-operate with organized medicine and its various subsidiary branches, that is, the county medical society, in organizing meetings for lay groups and in sending out qualified speakers.

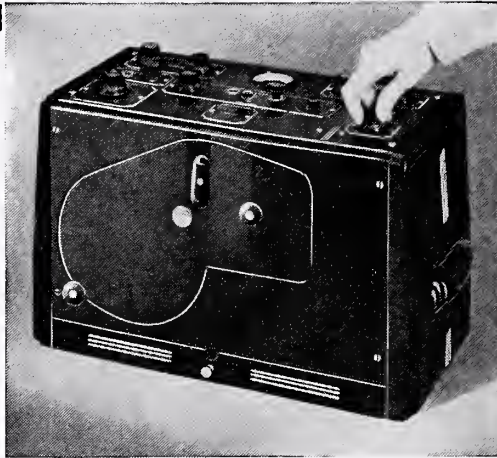
Because of the great demand for speakers who can discuss problems of medical importance in an interesting and nontechnical fashion, many physicians have availed themselves of courses in public speaking. The State Department of Health through its Health Education Division aims to assist the medical profession in every way possible to spread the gospel of modern medical care to every community throughout the commonwealth. No other state in the Union has such a splendid setup as does Pennsylvania.

The pneumonia control committee of each county medical society is asked to further the pneumonia control program in their particular region by all means at their disposal. They are asked to encourage the physicians to fill out their blanks and send them to the Division of Pneumonia Control in Harrisburg; they are requested to organize meetings for the discussion of pneumonia in its various aspects in hospital and other medical groups, and finally they are requested to co-operate in having programs for the laity addressed by physicians who are able to talk to lay groups in a way that they can understand.

With prompt action on the part of the medical profession and the public, the number of deaths from pneumonia during the 1940-41 season can be reduced to a minimum.

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COUNTY SOCIETY REPORTS

ADAMS

Sept. 4, 1940

The society resumed its regular meetings at the Annie M. Warner Hospital, Gettysburg, with 16 members present. President Henry Stewart presided. This was a business meeting only.

A Committee on Preparedness was appointed, with James B. Goynes, Gettysburg, chairman, to co-operate with the State Committee.

Refreshments were served.

HENRY STEWART, *President.*

BERKS

Sept. 10, 1940

The regular monthly meeting of the society was held at 3:15 p. m. in Medical Hall, Reading. After a brief business session in charge of Charles E. Lerch, the president, the guest speaker for the afternoon was introduced. Walter E. Dandy, professor of neurosurgery at Johns Hopkins University School of Medicine, addressed the society on "The Diagnosis and Treatment of Lesions of the Cranial Nerves."

Dr. Dandy said in part: The entire subject of cranial nerve lesions, their diagnosis, etiology, and treatment, is too lengthy a topic to cover in one period. The more common of the conditions included in the category of cranial nerve lesions are trigeminal neuralgia, glossopharyngeal neuralgia, Ménière's disease, and spastic torticollis.

Trigeminal Neuralgia—The diagnosis is inescapable whether in one or more of the 3 branches leading from the gasserian ganglion of the fifth nerve. The condition comprises a series of paroxysms of terrific pain induced by external stimuli such as sitting in a draft, cleaning the teeth, and washing the face. Although usually unilateral, 10 per cent of the cases are bilateral. This condition must be differentiated from psychogenic pain which is localized in one spot (usually near a tooth) and because of its localization has been called topalgia. Nerve pains must radiate; they do not stay in one place, nor do they flit from place to place. With psychogenic pain, no matter what the treatment, the pain will return but will localize in another area. The less done for the psychogenic patient, the better, since the neurosis increases with each treatment. It is therefore essential to differentiate between types of pains and not to operate until the diagnosis of trigeminal neuralgia is definitely established. Trigeminal neuralgia, although permanent, may have remissions, but there never will be a natural and spontaneous permanent recovery.

Another condition frequently erroneously considered is almost migrainous in character, with pain over one side of the head, paroxysmal, and lasting for hours; with it there is associated a slight ptosis of the lid, lacrimation, and flushing of the skin on the affected side. Here the sympathetic nervous system is involved, and the treatment consists in removing the stellate (first dorsal sympathetic nerve) ganglion.

To treat a patient for trigeminal neuralgia when it is not present is serious; but to omit the treatment when it is present is equally serious. Injection of the ganglion with alcohol merely relieves pain for about a year, and is not without dangerous complications. The distribution of the alcohol in the surrounding tissues cannot be controlled and limited to the gasserian ganglion, and thus may permeate all the adjacent nerve elements. The original surgical treatment of trigeminal neuralgia consisted in entering the cranium through the temporal bone and severing the sensory nerve from the gasserian ganglion. Later a partial section of the sensory portion leading to the ganglion was developed leaving the ganglion itself intact. There are, however, many liabilities encountered in operating via the temporal route.

The first liability is a keratitis beginning within 24 hours, the direct result of a nerve cut. This eye condition is intermittent but permanent. The eye may perforate, if not properly treated; many eyes have been sacrificed needlessly. The second liability is loss of the motor branch of the fifth nerve; later the patient can masticate and swallow on one side only. This serious and unpleasant complication occurs in about 3 per cent of all cases. The third liability is Jacksonian epilepsy; when operating by the temporal route, there may be meningeal hemorrhage resulting from the operation. The fourth liability is facial palsy in 10 per cent of the cases, a paralysis of mild, moderate, or serious degree. Surgery by the cerebellar route is dangerous in unskilled hands, but safe in skilled hands. In performing a cerebellar route operation, care must be taken to open the dura and evacuate the cisterna magna; then the cerebellum will sink and the operation can be continued without danger. Treatment of trigeminal neuralgia by the cerebellar route avoids all the liabilities encountered through the more vascular temporal route. The motor branch is never injured. If the condition is bilateral, both sides can be operated upon at the same time. There is no epilepsy from a posterior fossa operation. A fractional division (62 per cent) of the nerve is performed, because the sensory fibers are usually grouped according to their function before reaching the gasserian ganglion. If the lower half is divided, pain is lost.

The cause of trigeminal neuralgia is demonstrable at the operation. It is always on the sensory (lower or posterior) side; 10 per cent of the cases are caused by tumors of the sensory root; the remainder are usually caused by the artery winding around or looping over the sensory portion and pulsating over the naked nerve. A soft artery does no harm, but as the artery becomes sclerosed trouble begins.

Glossopharyngeal Neuralgia.—Although occasionally very similar to trigeminal neuralgia, this condition is common in occurrence but the pain is much more severe than in trigeminal neuralgia. We cannot stop the swallowing, which act starts up a severe paroxysm. A characteristic posture of the patient suffering from this condition is to hold the head forward to allow the saliva to drool out, so that swallowing will not be necessary. The pain resembles a ball of fire, radiating



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to the ear and along the lower jaw. A diagnosis of this condition can be established if, by cocainization of the tonsillar area on the affected side, the pain disappears. Division of the nerve involved (the ninth cranial nerve) by the cerebellar route will bring about a cure. On section of this nerve, there is lost only sensation in the posterior mouth and throat. Pain from sluggish ulcers of the tongue, whether due to cancer or other causes, can be treated under local anesthesia, through the cerebellar route, by dividing that portion of the fifth nerve which is distributed to the tongue, and by picking up and applying the cautery to a portion of the ninth cranial nerve.

Auditory Nerve Neuralgia or Ménière's Disease.—This is a paroxysmal condition produced by a lesion of the eighth cranial nerve and characterized by recurring attacks of dizziness, in which the objects themselves appear to whirl before the patient's vision. The attacks last from several minutes to perhaps a few weeks. The onset is sudden; the condition is terrifically disturbing and permanent with remissions. There is also impairment of hearing and tinnitus in the ear on the affected side. In pseudo-Ménière's disease there is no deafness and no tinnitus; the side involved is therefore not known. Ménière's disease is curable. Originally a total section of the eighth nerve was performed, but now only the anterior or superior half is divided and hearing is retained. Tinnitus may or may not be cured, but the patient will not have another attack of dizziness. The condition is bilateral in 3 per cent of all cases. There is no disturbance of locomotion and equilibrium after division, although nystagmoid movements of objects frequently continue. In 20 per cent of the cases an arterial loop may be the cause of this condition but in 80 per cent the cause cannot be found; it is evidently intrinsic. The anterior five-eighths of the auditory nerve may be divided by a knife or picked up and divided by the cautery. Care must be taken in sectioning the eighth nerve, because hugging the undersurface of it is the seventh (facial) nerve.

Spastic Torticollis.—This is a painful contraction of the muscles of the neck, forceably pulling the head and neck to one side. Many attempts have been made to cure this by cutting the ninth cranial nerve. Treatment now consists of laminectomy and cutting the first, second, and third motor nerve branches and the eleventh (spinal accessory) nerve on either side. The neck muscles will be quite weak temporarily, but they will gradually regain most of their strength. The shoulders will continue to droop.

The fifth, seventh, eighth, ninth, and tenth cranial nerves are all closely related in the cerebellar area. If the seventh nerve is accidentally cut, the peripheral portion may be anastomosed to the central portion of the spinal accessory nerve; or, the outer portion of the petrous bone may be removed, thereby making a short cut between the severed ends of the seventh nerve, and the free ends may be sutured together.

In a third nerve palsy there is ptosis of the eyelid and an outward rotation of the eyeball; it is usually caused by an aneurysm of the anterior cerebral artery. Pick up the neck of the aneurysm with a clip, cauterize the aneurysm, and the patient recovers. If the aneurysm has no neck, tie off the portion not affected (that part distal to the aneurysm), and put another ligature around the internal carotid in the neck, thereby allowing collateral circulation through the circle of Willis to take care of the blood supply.

The cerebellar route, while not without some dangers, is by far the safer and more adaptable route for most kinds of cranial nerve lesions.

In discussion, Charles R. Essick asked the explanation for lack of disturbance of locomotion and equilibrium after section of the eighth nerve in man. Dr. Dandy said that the reason is not definitely known, but it is thought that there is a transference to the ocular muscles.

Wellington A. Lebkicher asked for a brief résumé of treatment for brain injuries. Dr. Dandy replied that it is best to leave them alone.

PEARL E. HACKMAN, *Reporter.*

LUZERNE

Sept. 4, 1940

The first regular meeting of the society was held in the society building, Wilkes-Barre, with William Baurys presiding. Walter N. Lambert, Luzerne, was elected to membership. Lewis T. Buckman read an illustrated paper on "Endoscopy in Diseases of the Air and Food Passages." He said in part:

The esophagus is a flaccid, movable canal, with curves and points of narrowing, consisting of a tube of musculomembranous tissue, closed at the top by the action of the cricopharyngeus muscle which clasps the larynx back against the vertebral column, and at the bottom by the so-called "pinchcock of the diaphragm" where it passes between the crura of the latter to enter the stomach.

The tube is subject to inflammations, diffuse or localized, to ulceration, to tumor formation, to constriction by scar or neuromuscular disturbance, and to obstruction. Lodgment of a foreign body results in inflammation, in time leading to erosion and even perforation.

Flat, disk-like foreign bodies in the esophagus usually lodge beneath the fold of the cricopharyngeus muscle and always appear on the film with the flat face presenting in the frontal plane of the body. Foreign bodies cause dysphagia, secondarily regurgitation, and ultimately water loss and starvation, suppuration and mediastinitis or pneumonia by perforation into the mediastinum or through the trachea, or by overflow of food and liquids into the larynx.

M. C., a male, age 3, refused food, regurgitated, was fretful, and developed fever. He did not choke or gag at home and for 10 days he was treated variously, even having the ears lanced for the fever and referred aural pain before roentgen-ray examination was made. The latter showed a thumb tack in the hypopharynx, the point embedded in the posterior wall with resultant posterior abscess. This was removed, the abscess drained, and recovery followed.

E. S., a female, age 10, had pain in the throat and dysphagia. She had been pinning a picture to the wall at school when a pin slipped down her throat. This was removed; 24 hours later she had fever and stiffness in the neck. An abscess developed which was incised and drained with subsequent recovery.

J. O'M., a male, age 23 months, had swallowed a coin 5 days before; since then he could swallow only liquids. It was the typical picture of a disk-like object. The danger of neglect is esophagitis and possibly overflow into the larynx, or even ultimate erosion of the wall.

Neoplasm produces dysphagia, usually the first symptom, at first for liquids, then for solids. Later come pain and loss of weight. The diagnosis is based on observation of the swallowing time by roentgen-ray ex-

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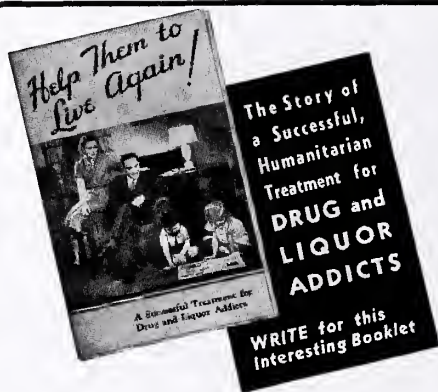
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amination with an opaque liquid and by histologic examination of the portion of the growth obtained with forceps through the esophagoscope.

Swallowing time is not observed in many of the cases and should be done at the first examination. This is done by giving a glass of water to the patient, who is told to take some into the mouth and to hold it until told to swallow. The examiner places the bell of the stethoscope just under the ribs over the cardia of the stomach, observes his watch, and directs the patient to swallow. There is a slight sound due to the reflex relaxation perhaps at the lower end as the water enters the upper end of the tube. Liquids do not drop right through into the stomach; it requires a normal time of 7 seconds for a gulp to pass through and enter the stomach. As the liquid passes the end of the tube and enters the cardia there is a distinct tinkle heard through the stethoscope. Time lengthened out over 7 seconds suggests interference on the way down.

Next to be done is the roentgen-ray examination, and finally a biopsy. As far as Dr. Buckman knows, there is no adequate treatment for carcinoma of the esophagus available in a community such as ours. There are isolated cures in some clinics following mediastinotomy and excision of the involved portion of the tube. Radiation seems ineffective; deep therapy has been used, also a bougie loaded with radium emanation, but the results are hopeless. The prognosis is usually less than a year of life from the time the tumor is large enough to cause symptoms.

Cardiospasm is the common name given to that condition manifested by a spasmodic contraction of the crura of the diaphragm about the lower end of the esophagus.

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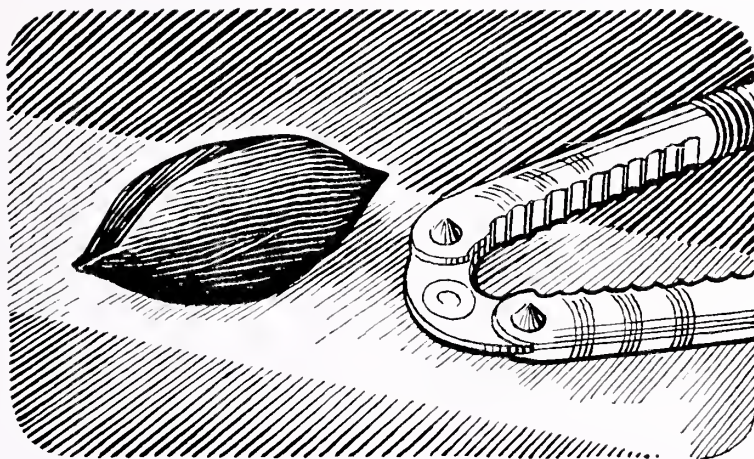
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The name "preventriculosis" by Chevalier Jackson is described as a diseased condition of the part above the stomach. There is obstruction at the lower end of the esophagus, so the tube is enormously dilated, the walls lax and mucosa smooth, pale, and pasty-looking, the tube overloaded with food, mucus, and saliva. The cause is unknown.

Lung abscess can be treated bronchoscopically; some can be cured. Most of the speaker's cases have been located in the right middle lobe. Aspirating the secretions, eliminating foreign bodies and neoplasms, dilating strictures, cutting out granulations, and injecting lipiodol for lung mapping or medicated solutions for self-cleansing of the lung are services offered by bronchoscopy. Rest, fresh air, symptomatic treatment, and postural drainage are of importance. No cavity is seen endoscopically and so no aspiration is done from a direct cavity. Excess secretions are aspirated and the overburdened lung is relieved for a time. Obstructions to drainage are removed, the part aerated, and the patient's recuperative powers produce a cure. It is generally accepted that by early bronchoscopic treatment prompt relief of postoperative atelectasis can be obtained.

Early bronchiectasis can be obtained only by lung-mapping with lipiodol. A case which explains this is: M. W., a female, age 22, complained only of a constant hacking and expectoration of thick mucus. The pharynx showed a thick coating of sticky mucus. At first it was thought that she had a sphenoiditis and treatment brought some relief. Later, there was recurrence and a musty odor to the breath was noted. It was suspected to be from the lung. A flat roentgen-ray film showed vague infiltration at the right base. Lipiodol was in-



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stilled and the film showed a circumscribed shadow and about it several bronchioles that were blocked.

The unsuspected foreign body in the lung must be borne in mind. Full relief of symptoms is usually obtained with the removal of the same. There are 2 classes of bodies, organic and inorganic. The latter are metallic, glass, celluloid, etc., and can remain in situ for some time without causing much damage. The organic foreign body is dangerous because it causes secondary changes in the lung. Swelling of the mucosa occurs and thus partial obstruction is seen. After removal of bodies the lung aerates again and returns to normal.

MARJORIE E. REED, *Reporter.*

STATE BOARD EXAMINATION

The following questions were submitted by the State Board of Medical Education and Licensure at the examination conducted July 9 to 11, 1940:

Medical and Surgical

PHYSIOLOGY, PATHOLOGY, BACTERIOLOGY, AND PHYSIOLOGIC CHEMISTRY

1. State what further laboratory tests would be indicated in each of 3 specific findings in a routine urinalysis.
2. Outline briefly the function of the liver.
3. What are the normal findings in a gastric analysis? Give the significance of each of the more common abnormal findings.
4. Outline the laboratory investigations called for in a case of edema.
5. What is the meaning and the significance of each of the following: (a) nystagmus? (b) reaction of degeneration? (c) aphonia?

6. Describe briefly the vasomotor system. How may it be seriously altered functionally? pathologically?

7. What is the physical consequence of a deficiency (a) in vitamin C? (b) in pituitary secretion in childhood?

8. Give specific directions for obtaining and for transmitting to the laboratory suitable specimens for determining the etiology (a) of purulent conjunctivitis; (b) of acute pharyngitis. What micro-organisms are suspected in each?

9. State the significant feature in bacteriologic investigation that identifies each of the following: (a) tubercle bacillus; (b) Klebs-Löffler bacillus; (c) *Spirochaeta pallida*.

10. In a case of progressive debility without fever in a middle-aged man, what laboratory investigations might establish the cause?

DIAGNOSIS, SYMPTOMATOLOGY, MEDICAL JURISPRUDENCE, AND TOXICOLOGY

1. How would you diagnose lobar pneumonia in childhood?
2. Compare scarlet fever with measles in respect (a) to period of incubation; (b) to prodromal symptoms; (c) to character of eruption.
3. Give the earlier and later signs and symptoms of tabes dorsalis.
4. What are the symptoms of poisoning (a) by methyl alcohol? (b) by marihuana?
5. Differentiate glaucoma and iritis.
6. What symptoms characterize hyperthyroidism? Hypothyroidism?
7. What physical condition suggests rickets? scurvy?
8. What is the significance (a) of an inguinal adenopathy? (b) of a generalized adenopathy?
9. How would you diagnose mild alcoholic intoxication? chronic lead poisoning?

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10. How would you diagnose an endocarditis? What are its dangers?

GYNECOLOGY AND OBSTETRICS

1. Outline the management of the second stage of labor.

2. Discuss the treatment of pregnancy when complicated by essential hypertension and appearing in the first trimester.

3. Given a symmetrical pelvis with a diagonal conjugate diameter of 10.5 cm., how would you determine the proper management when the patient is at term?

4. Differentiate "retained placenta" from "adherent placenta"; outline treatment in a case of retained placenta.

5. Give the clinical course of a case of pernicious vomiting of pregnancy. What are the salient points in its treatment?

6. How will you diagnose and treat a case of infected incomplete abortion.

7. In a woman, age 30, what symptoms would occur from a retrocessed uterus, and how would you diagnose this condition? Detail one method of treatment.

8. What are the most frequent causes of postmenopausal uterine bleeding? Select one and give its diagnosis and treatment.

9. Give the differential diagnosis of 4 conditions which may cause enlargement of the abdomen in a woman, age 40.

10. What are the clinical aspects of trichomonas infestation of the vagina? Differentiate this from other types of vaginitis.

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ANATOMY AND SURGERY

1. Describe the common femoral artery and its branches.
2. Describe the thyroid gland.
3. Describe the phrenic nerve.
4. What are the anterior and posterior boundaries of the axilla? What arteries and nerves pass through it?
5. Give the surgical anatomy of femoral hernia.
6. Describe the symptoms in a case of fracture at the base of the skull in the middle fossa.
7. What is a Colles' fracture? How would you treat it?
8. Give the symptoms and outline the treatment in a case of ruptured gastric ulcer.
9. Give the symptoms and outline the treatment in a case of cancer of the breast.
10. Describe citrated blood transfusion and state the routine precautions that need to be observed.

PRACTICE, MATERIA MEDICA, THERAPEUTICS, HYGIENE, AND PREVENTIVE MEDICINE

1. What type of anemia requires liver for treatment? Give reasons.
2. Designate 4 types of asthma. Give the etiology of and outline the treatment for each.
3. Discuss eczema, giving etiology, prognosis, and treatment.
4. Discuss treatment for a case of ulceration of the cornea.
5. Name the symptoms of each of 4 chemical poisons and indicate the treatment for patients suffering from the effects of each.
6. Discuss the etiology of rheumatic heart in the

adolescent; give symptoms and outline treatment for same.

7. Give the signs and symptoms of belladonna, of veratrum, of urotropin, and of sulfanilamide when used in physiologic doses.

8. How do you determine whether the sewage facilities of a city are adequate?

9. Give the etiology, the diagnosis, and the treatment in a case of toxic goiter.

10. Tracing milk from the dairy to the consumer, give the hygienic requirements of the state.

NO "MUNICH" IN MEDICINE

Medical men do not need to be told the value of preparedness. The lessons taught by the first World War and by succeeding campaigns in the rest of the world have not been and will not be disregarded as were the new tactical discoveries.

The House of Delegates of the American Medical Association in New York appointed a committee of 15 truly American medical men to prepare the profession for possible war service. They have sent you a questionnaire in order to properly assign you to the right service if war comes.

The immediate return of your completed questionnaire will facilitate the establishment of a program for medical service in war which will go far toward saving the lives of our wounded and avoiding the confusions and inefficiencies which were reported by the medical veterans of 1918.—*J. Michigan M. Soc.*

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THE WOMAN'S AUXILIARY

MRS. GEORGE C. YEAGER, *Editor*

1419 E. Susquehanna Avenue

Philadelphia, Pa.

EDITOR'S NOTE

We wish to thank all county auxiliaries who responded to our appeal for news during the past year, and we are asking for even better results for 1941.

Kindly remember:

1. All material should be typed or written double-spaced, on one side of paper only. Leave a wide margin on the 4 sides of each sheet.

2. This material should reach this office by the thirtieth of each month.

3. No newspaper clippings, please.

4. Have the chairman of publicity or the secretary send monthly reports of meetings or social activities to the state chairman of publicity.

5. Report all councilor district meetings.

We greatly appreciate the courtesy and aid extended by Dr. Frank C. Hammond, editor of the State Medical Journal.

Mrs. John H. Doane, our state president, has been a real help and inspiration, and we thank her for encouragement and kindly advice.

Remember, we are still hoping for reports from each organized auxiliary in 1941.

JESSIE W. (MRS. GEORGE C.) YEAGER,
Chairman of Publicity.

LETTER FROM NATIONAL PRESIDENT

DEAR AUXILIARY MEMBER:

In view of the fact that many auxiliaries do not hold meetings throughout the summer months, and since there were several matters of importance that were discussed in New York vital to every auxiliary member, I am taking the liberty of enclosing the pamphlet entitled *Look Forward*.

Also enclosed is a subscription blank and self-addressed envelope which we hope you will fill in and mail together with *one dollar*, the subscription price of the Bulletin, to the circulation manager, Mrs. H. E. Christenberry, Highland Drive, Knoxville, Tenn. By placing your subscription immediately you will indicate your interest and support in making the official publication, the Bulletin, a better means of serving its purpose as a direct channel of communication.

The goal this year is one-fourth of the membership or 6000 subscriptions. The first issue will be the Fall number and will carry the following articles: A message from your president, and the president of the American Medical Association. The national officers and chairmen of the various departments will present their program. News notes and other items of interest will appear.

In launching this subscription campaign your response and promptness will play a large part in its success. I again respectfully urge your co-operation.

Sincerely,

HELEN D. (MRS. V. E.) HOLCOMBE, *President,*
Woman's Auxiliary to the American Medical Association.

Aug. 1, 1940.

COUNTY AUXILIARY REPORTS

Berks.—During the summer our new officers were untiring in their efforts to insure us a helpful and happy year. Our president, Mrs. Ralph L. Reber, has a keen interest in her office. Remembering the competent way in which she handled our finances for many years and appreciating her devotion to all phases of auxiliary work, we pledge her our co-operation in all things which she is willing to undertake.

Vacation is a happy time—a period of relaxation, of change of scene, of new contacts, of broader outlook, of renewed zest for living. But reunion is also a joyous time. We meet, after separation, to renew old friendships and to work together. With 121 active members and 16 honorary members in our organization, there are unlimited opportunities for adventure in friendship and for exploring fields of usefulness.

On Sept. 9, Mrs. Sydney J. Sondheim shared with us the beauties of her home and garden in the Wernersville mountains. The summer outing, July 10, at Galen Hall, Wernersville, was greatly enjoyed by the members who were fortunate enough to be in this vicinity. Cards, dancing, sports, entertainment, and dinner filled the afternoon and the evening hours.

Officers for the ensuing year are: President, Mrs. Ralph L. Reber; president-elect, Mrs. Edward G. Meter; first vice-president, Mrs. James B. Lessig; second vice-president, Mrs. Robert R. Impink; recording secretary, Mrs. Arthur A. Cope; corresponding secretary, Mrs. Edward C. Edgerton; treasurer, Mrs. Frank G. Runyeon; honorary member—Executive Board, Mrs. Wellington D. Griesemer; Advisory Board—Mrs. William F. Krick, Mrs. Leon C. Darrah, Mrs. Leroy W. Frederick.

Lackawanna.—On Aug. 27 an executive board meeting of the auxiliary was held at the home of our president, Mrs. Louis A. Milkman, Scranton. Plans were discussed for the coming auxiliary year, and for the annual meeting and luncheon to be held in September. Tea was served. Mrs. W. Rowland Davies and Mrs. J. Norman White presided at the very attractive tea table.

Philadelphia.—Activities of the season began with the convention in Philadelphia, followed by our first stated meeting on Oct. 8. These meetings afford an excellent opportunity to renew friendships and gain new acquaintances.

Edward L. Bortz, M.D., president of the Philadelphia County Medical Society, regards the work of organized medicine a function of our auxiliary. He will provide physicians to report on the affairs of the county and suggest ways and means by which we may be most helpful.

Health education chairman, Mrs. M. Fraser Percival, is ready to place speakers from the bureau of the Philadelphia County Medical Society before clubs. It is important that the public be correctly informed on current medical topics.

Mrs. Francis F. Borzell, president-elect and welfare chairman, is planning a busy year. Our affairs have for their purpose the raising of funds for the Aid Association. The splendid co-operation and support given in the past have brought success. May it continue with the same spirit to make this year outstanding for welfare.

Wyoming.—On Aug. 28 the auxiliary met with the physicians and dentists and their wives at the Lakewood Club for their annual outing and luncheon. They were especially fortunate in having Mrs. John H. Doane, State Auxiliary president, with them. She talked to both the physicians and dentists, and later explained to the auxiliary certain activities to be carried on.

SMOKING AND PREGNANCY

Smoking among women, mainly of cigarettes, has increased to an enormous extent. Indeed, in most countries, in rural districts as well as in towns and cities, it is the custom for females to smoke. Also, the majority inhale the smoke and some smoke to excess. There is no reason to suppose that smoking or inhaling injures females more than males, while, of course, smoking to excess is harmful to persons of both sexes, although the personal equation counts.

Recently, the question was raised in *The Practitioner* (May, 1940) as to the effects of cigarette smoking by the pregnant woman on the fetus and the child by a practitioner who has a patient expecting a baby in the beginning of September, who may be termed a some-

what heavy smoker, that is, she consumes 30 cigarettes a day and inhales.

A pediatrician working at a maternity hospital has replied to this letter cautiously, because there are no reliable statistics on the subject and mainly because of the difficulty of deciding what constitutes "excessive smoking." Even 30 cigarettes a day, if only one-third of each is smoked, might mean less nicotine than say 12 consumed to the very end in a holder. Most of the classical examples quoted are from French literature. It is stated that certain families, the women members of which are inveterate pipe smokers, show an exceptionally high degree of fertility. It may be interpolated here that few pipe smokers inhale and it might be pertinent to know the kind of tobacco these women use. Another statement, also from France, is that among women who work in tobacco factories there is diminished fertility and an increase in miscarriages and infant deaths compared with the average in the same districts.

The evidence for and against is so incomplete that to conclude one way or the other would be foolish. True, textbooks as a rule advise abstention from smoking during pregnancy, but this advice appears to be based on no sound foundations. More statistics must be gathered, analyzed, and sifted carefully before dogmatic statements can be made. In the meantime it is safe to say that inhalation of tobacco smoke certainly does no good to either men or women and to some it does harm.—Editorial, *Medical Record*, Aug. 7, 1940.

BEQUEST FROM THE POORHOUSE

(In the pocket of a ragged coat belonging to one of the inmates of the Chicago poorhouse, I am told, there was found, after his death, a will. The man had been a lawyer. So unusual was it that it was sent to an attorney; and the story goes that he was so impressed with its contents that he read it before the Chicago Bar Association, and that later it was probated. And this is the will of the ragged old inmate of the Chicago poorhouse.)

I, CHARLES LOUNSBERRY, being of sound and disposing mind and memory, do hereby make and publish this my last will and testament in order to distribute my interest in the world among succeeding men.

That part of my interest which is known in law as my property, being inconsiderable and of no account, I



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make no disposition of. My right to live, being but a life estate, is not at my disposal, but, these things excepted, all else in the world I now proceed to devise and bequeath.

Item: I give to good fathers and mothers, in trust for their children, all good little words of praise and encouragement, and all quaint pet names and endearments; and I charge said parents to use them justly, but generously, as the deeds of their children shall require.

Item: I leave to children inclusively, but only for the term of their childhood, all the flowers of the fields and the blossoms of the woods, with the right to play among them freely according to the custom of children, warning them at the same time against thistles and thorns. And I devise to children the banks of the brooks and the golden sands beneath the waters thereof, and the odors of the willows that dip therein, and the white clouds that float high over giant trees. And I leave the children the long, long days to be merry in, in a thousand ways, and the night and the train of the Milky Way to wonder at, but subject, nevertheless, to the rights hereinafter given to lovers.

Item: I devise to boys, jointly, all the useful idle fields and commons where ball may be played, all pleasant waters where one may swim, all snowclad hills where one may coast, and all streams and ponds where one may fish, or where, when grim winter comes, one may skate, to hold the same for the period of their boyhood. And all meadows, with the clover blossoms and butterflies thereof; the squirrels and the birds and the echoes and strange noises, and all distant places, which may be visited together with the adventures there found. And I give to said boys each his own place at the fireside at night, with all pictures that may be seen in the burning wood, to enjoy without let or hindrance or without any encumbrance or care.

Item: To lovers, I devise their imaginary world, with whatever they may need, as the stars in the sky, the red roses by the wall, the bloom of the hawthorn, the sweet strains of music, and aught else they may

desire to figure to each other the lastingness and beauty of their love.

Item: To young men jointly I bequeath all the boisterous, inspiring sports of rivalry, and give to them the disdain of weakness and undaunted confidence in their own strength. I leave to them the power to make lasting friendships and of possessing companions, and to them, exclusively, I give all merry songs and choruses to sing with lusty voices.

Item: And to those who are no longer children or youths, or lovers, I leave memory; and bequeath to them the volumes of poems of Burns and Shakespeare and other poets, if there be others, to the end that they may live the old days over again, freely and without tithe or diminution.

Item: To the loved ones with snowy crowns, I bequeath the happiness of old age, the love and gratitude of their children until they fall asleep.

WESTERN EQUINE ENCEPHALOMYELITIS
INCUBATION PERIOD REVEALED

A laboratory accident, which proved fatal, revealed the heretofore undetermined human incubation period of the Western strain of equine encephalomyelitis, a virus disease which is similar to so-called "sleeping sickness," Ferdinand C. Helwig, M.D., Kansas City, Mo., reveals in *The Journal of the American Medical Association* for July 27.

The victim, a prominent veterinarian, was working with the virus of the disease when, apparently because of too much power being applied to a laboratory machine, the virus was spattered all over him. Fourteen days after this accident the victim became ill and 8 days later died. He had had no contact with the disease for weeks before or subsequent to the accident. Dr. Helwig says that the virus most probably entered through the respiratory passages.

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*Medical Record, Aug. 21, 1940

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MEDICAL NEWS

Births

TO DR. AND MRS. PAUL N. FRIEDLINE, of Dalmatia, a son, Aug. 23.

TO DR. AND MRS. LEWIS B. THOMAS, West Nanticoke, a son, June 19.

TO DR. AND MRS. HERBERT KAPLAN, of Collegeville, a son, July 26.

TO DR. AND MRS. W. DRURY HAWKINS, of Harrisburg, a son, Aug. 20.

TO DR. AND MRS. EDWARD L. MCGINLEY, of Wilkes-Barre, a daughter, July 8.

TO DR. AND MRS. W. PAUL DAILEY, of Harrisburg, a daughter, Aug. 14.

TO DR. AND MRS. BERNARD A. SAGE, of Harrisburg, a daughter, July 20.

TO DR. AND MRS. HARRISON F. FLIPPIN, of Philadelphia, a son, Aug. 14.

TO DR. AND MRS. SAMUEL F. COHEN, of Norristown, a daughter, Joan Carolyn, June 2.

TO DR. AND MRS. CHARLES B. PETERSON, JR., of Lancaster, a daughter, Sharon Peterson, this summer.

TO DR. AND MRS. LESTER H. HERGESHEIMER, of Philadelphia, a daughter, Christine, Aug. 13.

TO DR. AND MRS. JOHN M. BRECHT, of Norristown, a son, George Kriebel Brecht, June 30.

TO DR. AND MRS. G. GORDON SNYDER, of Merion Golf Manor, a daughter, Jacqueline Graham Snyder, Aug. 7.

TO DR. AND MRS. D. SERGEANT PEPPER, of Philadelphia, a daughter, Hester Laning Pepper, Aug. 21.

TO DR. AND MRS. ERNEST E. WIESNER, of Brockton, Mass., formerly of Tamaqua, a son, Aug. 17.

DR. AND MRS. ALBERT R. GARNER, of Norristown, have a new granddaughter, Toni Rambo, born June 3.

Engagements

MISS ELSIE FELBER, of New York, and Leon Freyman, M.D., of Norristown.

MISS MARTHA JANE BARNARD, daughter of Dr. and Mrs. Everett P. Barnard, of Bryn Mawr, and Mr. Henry Clark Whittlesey, of Philadelphia.

Marriages

MISS ALICE LOUISE GILLAN to Donald E. Morrison, M.D., of Penbrook, June 12.

MARGARET PAXSON, M.D., of Pottsville, to Mr. Harry F. Brian, of Lancaster, Aug. 17.

MISS LUCILE IVEY, of Villanova, to Alison H. Price, M.D., of Philadelphia, Aug. 7.

MISS RUTHANNA MARK, of Hagerstown, Md., to George M. Klitch, M.D., of Harrisburg, June 22.

MISS RITA VIRGINIA BYRNE, of Phoenixville, to F. Benedict Lanahan, M.D., of Narberth, Sept. 14.

MISS CATHERINE REIMANN ROESS, of Oil City, to Roland S. Aronson, M.D., of Philadelphia, Aug. 31.

MISS MARTHA ANN PRICE, daughter of Dr. and Mrs. John B. Price, of Norristown, to Mr. Robert C. Brown, Aug. 3.

MISS EILEEN HILDEGARDE VON GOLDBERG, daughter of Dr. and Mrs. Harold G. von Goldberg, of Bala, to Mr. Ralph Child Erskine, of Tryon, N. C., Aug. 7.

Deaths

MRS. ELEIDA BOSLER ASHCRAFT, of Philadelphia, wife of Leon T. Ashcraft, M.D., head of the department of urology at Hahnemann Medical College and Hospital of Philadelphia, died in Hahnemann Hospital recently. She had been ill several months. Her husband, 2 sons, 2 brothers, and a sister survive.

ULYSSES GRANT BICKELL, Stonehurst; Jefferson Medical College of Philadelphia, 1893; aged 75; died Aug. 4. Although he maintained his residence at Stonehurst for 20 years, Dr. Bickell practiced at White Haven, in Luzerne County, until retiring 3 years ago. He was a member of the White Haven American Legion Post, and during the World War served overseas in the U. S. Army Medical Corps with the rank of captain. Surviving are his wife, 2 sons, a stepdaughter, and 4 grandchildren.

MARTIN LUTHER BOMBERGER, Lebanon; University of Pennsylvania School of Medicine, 1940; aged 30; intern at the Harrisburg Hospital, where he was found dead in bed, July 8, of a self-inflicted incised wound of the throat.

ALBERT JEROME BRITT, Philadelphia; Jefferson Medical College of Philadelphia, 1893; aged 67; died July 26. Dr. Britt, a son of Edward and Mary Britt, was born at West Conshohocken, July 14, 1873. He served his internship at the Montgomery Hospital, Norristown, 1893-94. Dr. Britt was on the visiting staff of St. Mary's Hospital, Philadelphia. He was married to Gertrude Green in 1925, who is deceased. Surviving are a sister and 2 brothers.

GEORGE HOUGHTON CLAPP, Erie; Jefferson Medical College of Philadelphia, 1907; aged 57; died at his home Aug. 21. Dr. Clapp was born in Philadelphia, Mar. 3, 1883, a son of Edward H. and Sarah Clapp. He was graduated from the Boys' Central High School of Philadelphia. Dr. Clapp served his internship at the Samaritan Hospital, Philadelphia (now Temple University Hospital), 1907-08. He formerly practiced medicine in Philadelphia, Pottstown, and Shinglehouse (Potter County) before moving to Erie after the World War. He was on the staffs of the Hamot Hospital and St. Vincent's Hospital in Erie, and was a member of his county and state medical societies and a Fellow of the A. M. A. Dr. Clapp specialized in ophthalmology, otology, laryngology, and rhinology. During the World War he served abroad for 3 years as a captain with the U. S. Army Medical Corps. He was gassed at the second battle of the Marne and awarded the Medal of the Purple Heart. Dr. Clapp was married to Mary H. Toland in 1911, who is deceased. Surviving are his mother, 2 daughters, 2 sons, a sister, and a brother.

JOHN CAMDEN COCHRAN, St. Mary's (Elk County); Dartmouth Medical School, Hanover, N. H., and Jefferson Medical College of Philadelphia, 1890. He also completed a course at the New York Post-Graduate Medical School. Dr. Cochran, aged 84, was born in Bell Township, Jefferson County, a son of Joseph and Elizabeth Ann Cochran. At the age of 22 Dr. Cochran engaged in teaching and later entered the employ of his brother-in-law, A. P. Cox, M.D. He practiced medicine for a time at Big Run, and was a member of the

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Big Run school board, being its president for several years. He was also elected to serve a term as coroner of Jefferson County. For many years he was surgeon for the B. R. and P. Railroad, and was one of the proprietors and founders of the Big Run *Tribune*, a weekly newspaper.

Dr. Cochran moved to St. Mary's about 29 years ago, where he operated a pharmacy and engaged in the practice of his profession. Prior to the destruction by fire of the Andrew Kaul Memorial Hospital at St. Mary's, he served as chief of the medical staff of that institution. About 7 years ago he disposed of his drug-store and retired from practice.

Dr. Cochran was married to Ruth Derr, of Lancaster, July 20, 1904. His widow, 2 sons, and a daughter survive.

GEORGE ERNEST CRAMER, Aspinwall; University of Pittsburgh School of Medicine, 1913; aged 56; died June 14. Dr. Cramer specialized in surgery. He was a member of his county and state medical societies and a Fellow of the A. M. A.

CORNELIUS MICHAEL DAILEY, Carnegie; Baltimore Medical College, 1905; aged 61; died Aug. 19 following a 4-month illness. Dr. Dailey was born at Steelton, Dec. 10, 1876, a son of Cornelius and Johanna (Murphy) Dailey. He received his early education in the Steelton schools. Dr. Dailey served his internship at St. Joseph's Hospital, Lancaster, 1905-1906, followed by a residency at the same hospital, 1906-1907. He had practiced medicine in York, Philadelphia, and Harrisburg before moving to Carnegie. A brother, William P. Dailey, M.D., of Steelton, survives.

WILLIAM HENRY DEARDORFF, Philadelphia; Jefferson Medical College of Philadelphia, 1896; aged 72; died at Jefferson Hospital, Philadelphia, June 20, after a 2-months' illness. Dr. Deardorff was born in Gettysburg and attended Gettysburg College. He was formerly assistant professor of laryngology at Jefferson

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Medical College. Surviving are his widow, 2 sons, Charles L. Deardorff, M.D., of Bala-Cynwyd, and Fred W. Deardorff, M.D., of Upper Darby, and a daughter, the wife of Franklin F. Osterhout, M.D., of Philadelphia.

MR. ANTHONY DeSANTO, of Pittston, father of John C. DeSanto, M.D., of Wilkes-Barre, died Aug. 1.

SIMON PETER EARNEST, Delmont (Westmoreland County); University of Pittsburgh School of Medicine, 1890; aged 74; died July 11. A native of Delmont, Dr. Earnest was born Oct. 26, 1865, a son of Simon Peter and Mary Jane Earnest. He was associated with the Westmoreland Hospital. Dr. Earnest was a member of his county and state medical societies and a Fellow of the A. M. A. He practiced medicine in Delmont for 50 years. He was also a graduate in dentistry, which profession he practiced for 42 years. In 1892 Dr. Earnest was married to Elizabeth K. Earnest, to whom 3 daughters and a son were born. His widow, a daughter, and a son survive.

MRS. MARY HUGHES EWING, wife of the chief of staff of West Grove Community Hospital, died Aug. 13, at her home, after a long illness. She was aged 65. Her husband, William B. Ewing, M.D., and a daughter survive.

CHARLES VAN LOON GABRIEL, father of Albert H. Gabriel, M.D., of Plymouth, died June 21.

FRANK H. GARVERICH, Harrisburg; University of Maryland School of Medicine, Baltimore, 1888; Jefferson Medical College of Philadelphia, 1891; aged 78; formerly county physician, died June 15, of arteriosclerotic renal disease.

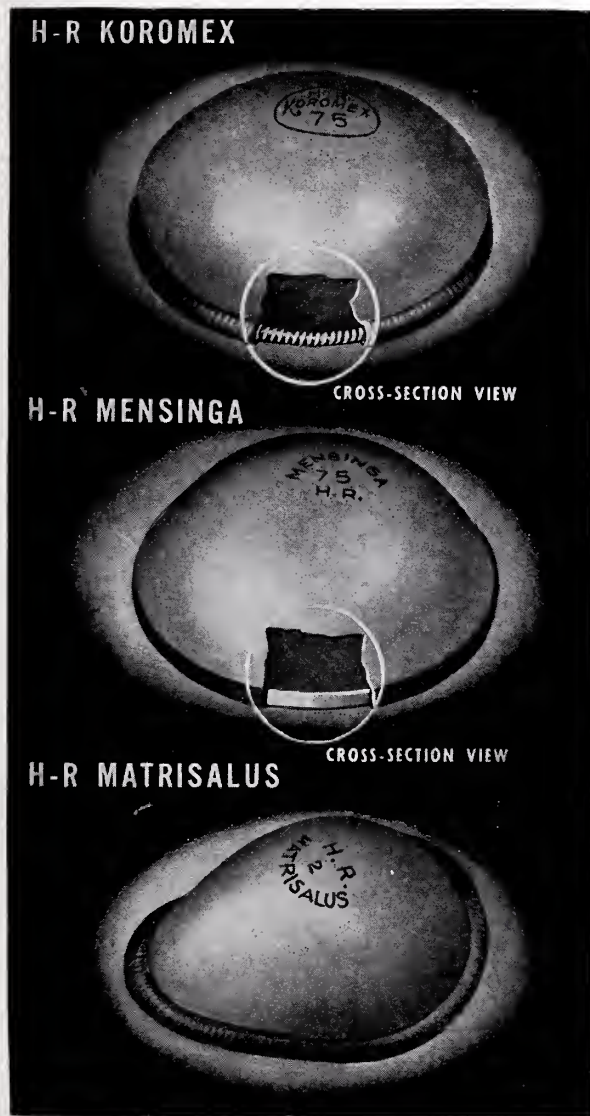
FRANKLIN SIMCOE GILLESPIE, Swarthmore; University of Pennsylvania School of Medicine, 1923; aged 43; died of a heart attack, July 27, while boating on the Northeast River at Northeast, Md. Dr. Gillespie was a native of Nottingham, a son of Edward and Louise Gillespie. He was born Nov. 9, 1896. He received his education at West Nottingham Academy, Mercersburg Academy, and Swarthmore College, where he was a junior when he enlisted in the U. S. Army Air Corps. His internship was served at the Presbyterian Hospital, Philadelphia. Dr. Gillespie was on the staffs of the Taylor Hospital, Ridley Park, and the Chester Hospital, Chester. He was a member of his county and state medical societies and a Fellow of the A. M. A. His medical fraternity was Nu Sigma Nu.

During the World War Dr. Gillespie trained at Fort Worth, Texas, and was waiting to go overseas when the war ended. In 1925 he joined the Pennsylvania National Guard and took the army flight surgeons' course. He later served as flight surgeon in Philadelphia for the 28th Division, and as examining physician for the U. S. Department of Commerce. He was one of the few surgeons in the United States with military pilot's rating. He resigned in 1933 but retained the rank of captain in the U. S. Medical Reserve Corps.

Dr. Gillespie practiced medicine at Swarthmore from 1929 to 1940. He was Swarthmore College physician for boys from 1931 until his death, and health officer for the Borough of Swarthmore from 1931 until 1940. In 1928 Dr. Gillespie was married to Beatrice H. Smith. Surviving are his wife, his mother, a brother, and a sister.

JOHN RICHARD GILLETTE, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1892; aged 73; died July 15, at his summer home in Yardley. Dr. Gillette, born in Washington, D. C., Mar. 24, 1867, was a son of John and Elizabeth (Jones) Gillette. He was a graduate of the Philadelphia High School. His internship was served at the Children's Homeopathic Hospital, Philadelphia (now St. Luke's and Children's Hospital). Dr. Gillette practiced medicine in Philadelphia for 48 years. He was a former member of Phila-

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delphia county and city school boards, and of the old Select Council of Philadelphia (from 1917 until 1920) representing the 32nd ward. He also served one term in the State Legislature in 1906. During the World War he was an examining physician for the draft board. Dr. Gillette was a member of his county and state homeopathic medical societies and the American Institute of Homeopathy. He was married to Reba Barkley in 1892. Surviving are his widow, a daughter, and a sister.

JOHN WOOD GORDON, Belle Vernon (Fayette County); Jefferson Medical College of Philadelphia, 1878; aged 84; died Aug. 6. Dr. Gordon was born at California, Pa., Jan. 9, 1856, a son of James M. H. and Margaret (Koontz) Gordon. He did graduate work at the New York Post-graduate Hospital on several occasions. Dr. Gordon was on the consulting staff of the Charlevoi Hospital. He was a member of his county and state medical societies and a Fellow of the A. M. A.

Dr. Gordon was married to Jean Graham in 1895, who died in 1926. A son and a daughter survive.

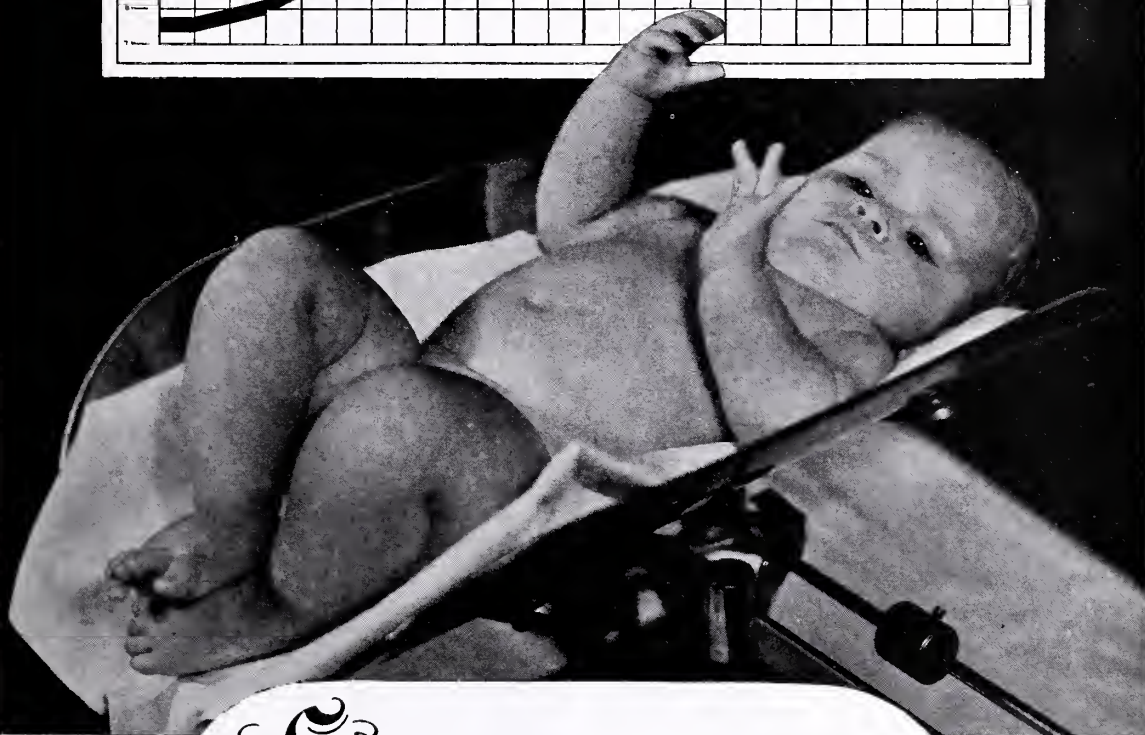
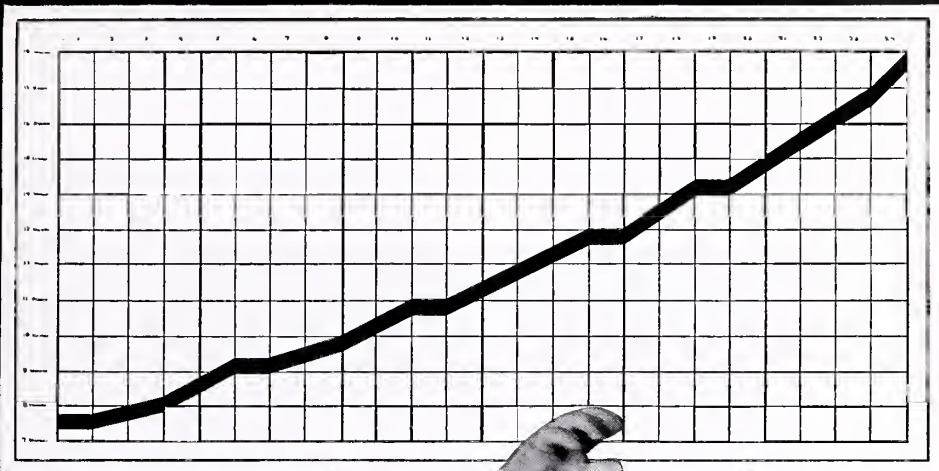
TOBY ANTHONY GRECO, Philadelphia; Jefferson Medical College of Philadelphia, 1916; aged 47; died July 18. Dr. Greco was born in New York City, Nov. 25, 1902, a son of Thressa and Anthony Greco. He was graduated from the South Philadelphia High School and the University of Pennsylvania. Dr. Greco served his internship at the Howard Hospital, Philadelphia, 1917-18. He was on the staffs of the Howard, American Stomach, and Jefferson Hospitals, Philadelphia. During the World War Dr. Greco served in the Medical Corps of the U. S. Navy with the rank of lieutenant. He was a member of his county and state medical societies and the A. M. A.

MRS. HELEN GROBLEWSKI, mother of Casimir C. Groblewski, M.D., of Plymouth, died June 6.

RUDOLPH HANOVER, McKees Rocks; Baltimore Medical College, 1906; aged 62; died Aug. 1. Dr. Hanover was born in Hungary, Jan. 15, 1878, a son of Philip Ephraim and Hannah Hanover. He received his early education in Hungary. He served his internship at the Society of Lying-In Hospital, New York, in 1906, and pursued graduate studies in that hospital and the Bellevue Hospital, New York, in 1910. Dr. Hanover practiced medicine at McKees Rocks from 1907 until his death. He was on the medical staff of the Ohio Valley General Hospital and was a member of his county and state medical societies and the A. M. A. He was married to Rose Tenebaum in 1910. His widow, a daughter, and 2 sons survive.

ROSE HIRSCHLER, Philadelphia; Woman's Medical College of Pennsylvania, 1899; aged 66; died of leukemia, at the Woman's Medical College Hospital, July 26. Dr. Hirschler, an internationally known dermatologist and syphilologist, was born at Butler, Ind., Oct. 1, 1875, a daughter of Isaac and Dorothea Hirschler. She attended Friends' Central School, Philadelphia. She did graduate work at the Polyclinic College, Philadelphia, and in Germany, Denmark, Austria, and France, and was on the staffs of the Woman's Medical College of Pennsylvania (professor of dermatology and chief of the dermatologic division) and the Woman's Hospital, Philadelphia. She was reputed to be the first woman physician to operate a roentgen-ray machine for the treatment of skin diseases. Dr. Hirschler was a member of her county and state medical societies, the Philadelphia Dermatological Society, a Fellow of the A. M. A., and a diplomate of the American Board of Dermatology and Syphilology. A niece survives.

JOHN LOUIS HOFFMAN, Ashland (Schuylkill County); University of Pennsylvania School of Medicine, 1886; aged 76; died Aug. 18. Dr. Hoffman was born at Cressona, Aug. 3, 1864, a son of George E. and Anna R. (Morris) Hoffman. He received his early



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education at the local grammar school. Dr. Hoffman served his internship at St. Luke's Hospital, Bethlehem, 1886-1888, and did graduate work at the Universities of Munich and Paris. He practiced medicine in Ashland for 52 years. Dr. Hoffman was a member of the Board of Trustees of the Ashland State Hospital. He was also a member of his county and state medical societies and a Fellow of the A. M. A. He was president of the Ashland Borough Council since 1916, having been elected to that body in 1914. Two years previous to his death, in recognition of his services as a physician, civic leader, etc., the Ashland Borough Council named a street for him, calling it "Hoffman Boulevard." In 1909 Dr. Hoffman received the honorary degree of A.M. from Susquehanna University.

During the World War Dr. Hoffman enlisted as a second lieutenant in the Medical Corps of the U. S. Army and served at Fort Wadsworth, Staten Island, and at Bayonne, N. J. He was discharged as a captain.

In 1908 Dr. Hoffman was married to Elizabeth E. A. Wagner, who with 2 sons survives.

WILLIAM HENRY HOWELL, Altoona; University of Pennsylvania School of Medicine, 1899; aged 67; became ill on Aug. 7, while en route to Atlantic City, and died in a Gettysburg hospital, Aug. 13. Dr. Howell was born in Wellsboro, May 15, 1873, a son of William and Hannah Howell. He attended the local public schools and was graduated with honors from the Mansfield State Normal school, where he taught for a time. His internship was served at the Altoona Hospital, 1899-1900, following which he began the practice of medicine in Altoona. He became one of the outstanding surgeons in Pennsylvania. Dr. Howell served for a time as chief physician of the gynecologic department of the Altoona Hospital. When the Mercy Hospital (Altoona) medical staff was reorganized in 1923, Dr. Howell was chosen chief of staff, serving continuously in that capacity until his death. He was a member of

his county and state medical societies, a Fellow of the A. M. A., and a Fellow of the American College of Surgeons. While at college Dr. Howell went in for rowing, the most strenuous of all college sports. He was a member of the University of Pennsylvania varsity crew for 3 years. The last 2 years he was both stroke and captain.

Dr. Howell is survived by his wife, Mrs. Mary Hartman Doerner Howell, a daughter, and a son, John C. Howell, M.D., of Philadelphia.

CHARLES FRANCIS KING, McKeesport; Medico-Chirurgical College of Philadelphia, 1910; aged 54; died June 22. Dr. King was born at Washington, D. C., Feb. 23, 1886, a son of Bernard B. and Catherine (McDevitt) King. He received his education at the Roman Catholic High School and Drexel Institute, Philadelphia. He pursued graduate studies in surgery for 5 years in Philadelphia. Dr. King later moved to McKeesport, where he practiced for 25 years. He was surgeon for the National Tube Company, McKeesport, and was on the staff of the McKeesport Hospital (department of roentgenology). He was a member of his county and state medical societies and the A. M. A. During the World War Dr. King enlisted in the U. S. Army Medical Corps in November, 1918, but was not called to service. In 1918 Dr. King was married to Corinne E. Schmidt. His widow and a son survive.

MRS. GRACE A. KISTLER, wife of Clinton J. Kistler, M.D., of Lehigh, died Aug. 13.

WILLIAM ASHER LA ROSS, McDonald; University of Pennsylvania School of Medicine, 1891; aged 72; past president of the Washington County Medical Society; died June 16.

RUTH WEBSTER LATHROP, of Philadelphia; Woman's Medical College of Pennsylvania, 1891; aged 78; died at her home of heat exhaustion July 31. Dr. Lathrop, a daughter of Francis C. and Fannie A. (Comstock)

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Lathrop, was born at Le Roy, N. Y., May 23, 1862. She attended Le Roy Academic Institute, Wellesley Preparatory School, and Wellesley College, where she received the degree of A.B. in 1883. She pursued graduate studies at the University of Pennsylvania and at Johns Hopkins University. Dr. Lathrop, who did not practice her profession, preferring teaching, was professor of physiology at the Woman's Medical College of Pennsylvania, 1903-1923, and associate professor of physiology, Temple University School of Medicine, 1923-1937. She retired at the age of 75 years.

Dr. Lathrop was a member of her county and state medical societies, the A. M. A., the American Academy of Medicine (vice-president), and the American Association of University Women. She is survived by a brother.

WILLIAM HENRY LEHNER, Brentwood (Allegheny County); University of Pittsburgh School of Medicine, 1895; aged 80; died July 21. A native of Pittsburgh, Dr. Lehner was born Dec. 12, 1859, a son of John and Jeanette Lehner. His early education was received at the Humboldt and St. Clair Schools, Duff's Mercantile College, and under a preceptor, A. J. Barchfield, M.D. After his graduation he was associated with A. J. Barchfield, M.D., and E. R. Bolland, M.D., of Pittsburgh. He pursued graduate studies at Jefferson Medical College of Philadelphia. Dr. Lehner was on the staff of the South Side Hospital, Pittsburgh. He was a member of his county and state medical societies, the A. M. A., and the South Side Medical Society. During the World War Dr. Lehner was a medical examiner on the draft board. In 1903 he was married to Mary Burns. His widow and a son survive.

WELLES JAMES LOWRY, Carbondale; Jefferson Medical College of Philadelphia, 1882; aged 85; died June 9. He was a member of his county and state medical societies and the A. M. A.

MURVINGTON EMERY MALAUN, Carbondale; University of Pennsylvania School of Medicine, 1896; aged 72; died June 25 of injuries received in an automobile accident.

HERBERT PAUL MEYERS, Confluence; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1903; aged 66; died June 8. Dr. Meyers was born at Glade, Aug. 25, 1874, a son of John and Anna (Barron) Meyers. He received his early education in the Somerset County schools, and was graduated from the California State Normal School in 1897, and from the University of Pittsburgh (pre-medical course) in 1901. Dr. Meyers began the practice of medicine at Markleysburg in 1905, and in 1908 moved to Confluence where he practiced until his death. He was a member of his county (president in 1932) and state medical societies and the A. M. A. During the World War Dr. Meyers was appointed a first lieutenant in the Medical Corps, U. S. A., on Oct. 19, 1918. He

served at Camp Greenleaf, Ga., and was honorably discharged Dec. 26, 1918. He was a member of the American Legion Post at Confluence.

Dr. Meyers was married to Flora Thomas in 1905, to whom a son was born. In 1932 he was married to Daisy Michael Meyers. His widow and son, Paul T. Meyers, M.D., of Johnstown, survive.

PATRICK FRANCIS MOYLAN, Scranton; Columbia University College of Physicians and Surgeons, New York, 1890; aged 75; died May 30. Dr. Moylan was born at South Canaan (Wayne County), July 10, 1865, a son of Cornelius and Margaret (Creedon) Moylan. He received his education at the South Canaan Public School and Waymart High School. Dr. Moylan practiced medicine at Scranton from 1890 until 1940. From 1883 to 1885 he taught school at South Canaan. In June, 1940, Dr. Moylan was awarded a certificate by The Medical Society of the State of Pennsylvania for his record of 50 years in the practice of medicine. He was a member of his county and state medical societies and the A. M. A. Dr. Moylan was on the staff (surgical) of the West Side Hospital, Scranton, from 1904 until 1910. He was married to Florence Fairchild, D.D.S., in 1893. His widow, a daughter, a son, Robert E. Moylan, M.D., of Scranton, and 3 grandchildren survive.

ANDREW O'NEILL, Uniontown; Maryland Medical College, Baltimore, 1904; aged 68; died Aug. 2. Dr. O'Neill was born at Carbondale, Sept. 22, 1872, a son of Peter and Maria O'Neill. He received his early education in the public and high schools of Carbondale. Dr. O'Neill specialized in diseases of the eye, ear, nose, and throat, and did graduate work in Baltimore, 1905-06, and in bronchoscopic surgery under Chevalier Jackson, M.D., at the University of Pennsylvania School of Medicine, 1920. He was on the staff (president one year) of the Uniontown Hospital, eye, ear, nose, and throat department. Dr. O'Neill was a member of his county and state medical societies and a Fellow of the A. M. A. In 1905 he was married to Caroline M. Brown. His widow, a son, a daughter, and a sister survive.

DAVID CABENE POSEY, Christiana (Lancaster County); Baltimore Medical College, 1908; aged 60; died July 6. Dr. Posey was born at Chanceford, Oct. 24, 1879. He was a son of M. A. Posey, M.D., and Rebecca Posey. He was on the staff of the Coatesville Hospital. Dr. Posey was a member of his county and state medical societies and a Fellow of the A. M. A. In 1908 he was married to Margaret M. Morton. His wife and 2 sons survive.

FOREST MONROE REID, Philadelphia; Howard University College of Medicine, Washington, D. C., 1920; aged 52; died June 25, of coronary occlusion.

MRS. ELIZABETH CLENDENNING RING, widow of G. Oram Ring, M.D., of Philadelphia, died Aug. 18, aged 71.

Cecil Edward Ross, Erie; Western Reserve University School of Medicine, Cleveland, Ohio, 1931; aged 37; died June 26. Dr. Ross, a son of Dr. Fred E. and Myrtice (Watson) Ross, was born at Erie, Dec. 7, 1902. He received his early education in the Erie public and high schools, and was graduated from the New York Military Academy at Cornwall on the Hudson in 1922. He also attended the University of Pennsylvania, 1922-23, and received the degree of B.A. from Allegheny College in 1926. His internship was served at the following hospitals: St. Vincent's, Erie, June, 1931, to February, 1932; Lakeside Hospital, Cleveland, Ohio, March, 1932, to June, 1933; the Babies' and Children's Hospital, Cleveland, July, 1933, to November, 1933. Dr. Ross pursued graduate studies at the Lakeside Hospital, Cleveland, in 1937, and at the Trudeau School of Tuberculosis in 1938. He was on the staffs of the following hospitals in Erie: Hamot,

St. Vincent's (medical department, cardiologist, instructor of nurses, also secretary of staff), and the Erie County Tuberculosis Hospital (consultant). He was a member of his county (served on the tuberculosis committee in 1940) and state medical societies and the A. M. A. During the World War Dr. Ross was a first lieutenant in the U. S. Medical Reserve Corps. In 1927 he was married to Alice H. Sturdevant (president of the Woman's Auxiliary to the Erie County Medical Society). His wife, his father (who is in practice in Erie), and several brothers survive.

BURTON CLARENCE RUMBEL, Conyngham (Luzerne County); Medico-Chirurgical College of Philadelphia, 1905; aged 66; died Sept. 3. Dr. Rumbel was born at Ringtown, Mar. 24, 1874, a son of Josiah and Elmira (Leudennuth) Rumbel. He practiced medicine for the past 35 years in Conyngham and Butler Valley. Dr. Rumbel was a member of his county (past president) and state medical societies and the A. M. A. He was married to Gertrude Lutz (deceased) in 1907. A son survives.

A. LE GRAND RUNION, Canonsburg; Western Pennsylvania Medical College, Pittsburgh, 1888; aged 89; died June 11.

PROFESSOR LOUIS AGASSIZ SHAW, who with Professor Philip Drinker received the John Scott Medals in Philadelphia in 1931 for their work in perfecting the "iron lung," died Aug. 27 in Boston. He was aged 54. An assistant professor in the Harvard University School of Public Health, he had been on leave of absence for the past year and a half due to illness.

WILLIAM BAUM SMALL, Philadelphia; University of Pennsylvania School of Medicine, 1893; aged 71; died suddenly at his home July 27. Dr. Small took his pre-medical course at Gettysburg College, from which he was graduated in 1890. He was attached to the staff of Lankenau Hospital in Philadelphia for more than 10 years. Dr. Small was a member of his county and state medical societies and a Fellow of the A. M. A. There are no close relatives surviving.

MR. CRAWFORD C. SMITH, father of Donald C. Smith, M.D., of Wilkes-Barre, died May 5.

ALLEN ANDREW VAN SLYKE, Mount Jewett; University of Buffalo School of Medicine, 1882; aged 81; died May 30, of angina pectoris. Dr. Van Slyke was a member of his county and state medical societies and the A. M. A.

MRS. ELEANOR JOHNSON WALKER, wife of Herschel C. Walker, M.D., of Wynnwood, died at Stockbridge, Mass., July 28.

EDWIN J. WEST, Easton; Hahnemann Medical College and Hospital, Chicago, 1891; aged 80; died June 16.

BARTON MARTIN WINTERS, Goodville (Lancaster County); Jefferson Medical College of Philadelphia, 1877; aged 85; died July 22, in Washington, D. C., of hypertensive heart disease and pulmonary edema.

JOHN IRWIN ZERBE, Franklin; Medico-Chirurgical College of Philadelphia, 1907; aged 61; died suddenly of a heart attack at the Venango Rod and Gun Club range, near Franklin, June 16. He had suffered a severe case of grip several months before. Dr. Zerbe was born Mar. 9, 1879, at Sacramento (Schuylkill County), a

son of John D. and Elizabeth (Saltzer) Zerbe. His early life was spent in that section. As a boy he taught school, earning sufficient money to attend Perkiomen Seminary, from which he was graduated in 1899. His early education was obtained at the Hubley Township Public School, and Minersville State Normal School. Dr. Zerbe served his internship at the Medico-Chirurgical Hospital, Philadelphia, 1907-08, following which he became associated with the Polk (Venango County) State School, where he remained until 1910. Dr. Zerbe practiced his profession at Franklin from 1910 until 1940. During the summer of 1906 he was engaged on the mosquito survey conducted by the Pennsylvania State Department of Health, under the late Samuel G. Dixon, M.D., State Commissioner of Health.

During the World War Dr. Zerbe was commissioned a captain in the Medical Corps of the U. S. Army, Sept. 5, 1918, and served at Ft. Oglethorpe, Ga., until June 17, 1919. He had charge of General Hospital No. 14 at Chickamauga Park most of that time. He also served as medical examiner of the district army draft board in 1917, and was medical examiner of Company L, 112th Infantry. He was a member of the Franklin armory board for many years, also a member of the American Legion, Franklin Post 476. He served as coroner of Venango County from 1934 until his death.

Dr. Zerbe was chief of staff, obstetric service, Franklin Hospital; physician-in-charge at the State Tuberculosis Clinic; member of staff at the Oil City Hospital; consulting physician at Polk State School; and chief consultant at Grandview Sanatorium. He was a member of his county (past president, 2 years, and secretary, 4 years) and state medical societies (member of the State Society Legislative Committee from 1938 to 1940) and a Fellow of the A. M. A.

Dr. Zerbe was married to Florence Wiley in 1910, who died Sept. 30, 1928. To this union a daughter was born. On Oct. 16, 1929, Dr. Zerbe was married to Florence MacLea. His wife, daughter, and 2 brothers, one of whom is Frank Zerbe, D.D.S., of Valley View (Schuylkill County), survive.

LORENZO BURTON ZIMMERMAN, Mt. Carmel; Jefferson Medical College of Philadelphia, 1894; aged 69; died June 20, of coronary thrombosis. He was a member of his county and state medical societies and the A. M. A.

Miscellaneous

THE LANCASTER CITY AND COUNTY MEDICAL SOCIETY has announced that Edgar W. Meiser, M.D., is the new editor of its monthly bulletin.

THE 1940 PICNIC of the Blair County physicians, druggists, and dentists was held in July at the Sportsman's Lodge in Riggles Gap. Over 150 were served.

EMIL MAYERBERG, M.D., of Wilmington, was elected president of the Delaware State Medical Society at the annual meeting held at Rehoboth, Del., Sept. 10.

THE FORTY-FIFTH ANNUAL MEETING of the American Academy of Ophthalmology and Otolaryngology was held in Cleveland, Ohio, Oct. 6 to 11.

KENNETH R. WESTON, M.D., of Allentown, being a lieutenant in the Medical Reserve Corps, has been called to active duty for the next 12 months. He is at present located at the Philadelphia Naval Hospital.

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ESMOND R. LONG, M.D., of Philadelphia, has been named president of the Wistar Institute of Anatomy and Biology, Philadelphia, succeeding the late Alfred Stengel, M.D.

RALPH PEMBERTON, M.D., professor of medicine in the Graduate School of Medicine of the University of Pennsylvania, has been made an Honorary Fellow of the Royal Society of Medicine, London.

GEORGE J. SCHWARTZ, M.D., of Drexel Hill, was named police surgeon by the Upper Darby board of commissioners recently. The position, which was recently created, provides a salary of \$100 a month. Dr. Schwartz will act as medical director for the police department and examining physician in cases of drunken driving arrests.

THE ANNUAL OUTING of the Lycoming County Medical Society was held Aug. 9 at Texas and Blockhouse Club. The secretary reported that a nestor booklet had been prepared for Charles E. Heller, M.D., who had reached his seventy-fifth year. The afternoon was spent in the usual activities, including card games and trapshooting.

AT THE THIRTY-SEVENTH ANNUAL MEETING of the American Urological Association held in Buffalo, June 27 and 28, Oswald S. Lowsley, M.D., of New York, was chosen president-elect. T. Leon Howard, M.D., of Denver, Colo., was installed as president, succeeding James B. Cross, M.D., of Buffalo.

THE NEW DISPENSARY of the Tuberculosis League of Pittsburgh was a gift from the board of directors. The cost was \$85,000. The dispensary facilities will be used for the examination and treatment of League patients from Allegheny County referred by physicians. Patients referred by state sanatoria will be accepted from other counties.

AT THE ANNUAL MEETING of the American Society of Tropical Medicine held in Memphis, Tenn., recently, the Bailey K. Ashford Award was established by Eli Lilly and Company, according to *Science*, July 5, 1940. This provides for 3 awards on alternate years. The award will be \$1000 and a bronze medal to be suitably engraved.

RALPH EMERSON BUCKLEY, M.D., of Hazleton, was elected commander of the Pennsylvania Department, Military Order of the Purple Heart, on June 29. The annual convention was addressed by Major-General Charles R. Reynolds, surgeon-general of the U. S. Army, retired. Charles B. Reynolds, M.D., of Philadelphia, was elected department surgeon.

ON PAGE 3, in *The Medical Reporter* of the Chester County Medical Society, appears the "Second Annual Dr. John A. Farrell Lecture." Through a typographical error the name of the lecturer and the date were not given. The address was delivered by Chauncey L. Palmer, M.D., chairman of the Committee on Public Health Legislation of the State Society, on Aug. 20.

JOHN B. CARRELL, M.D., of Hatboro, who recently celebrated his eighty-ninth birthday, is compiling a historical scrapbook of physicians and events of the Bucks County Medical Society. Of 120 pictures already classified, there is one of the first president of the Bucks County Medical Society, Phinias Jenks, 1848. The book will have about 200 pages and the work when

completed will be deposited in the Bucks County Historical Society library.

AT THE ANNUAL MEETING of the American Society of Clinical Pathologists held in New York, June 6 to 10, A. V. St. George, M.D., of New York, was inducted into the office of president for the coming year. According to *Science*, the gold medal for excellence in the scientific exhibit was awarded to John Eiman, M.D., and Charles G. Grosscup, Ph.D., of Abington, for their exhibit on "Fundamental Factors Governing the State of Hydration of the Body in Health and Disease."

THE APPOINTMENT of William B. Perry, M.D., as director of the Negro Health Clinic at 20th and Berks Streets, Philadelphia, was announced July 5 by Hubley R. Owen, M.D., director of public health, Philadelphia. The clinic was established with a \$25,000 gift from the Julius Rosenwald Foundation, and Dr. Perry's \$3500 salary will be paid out of that fund. The new director is a former Philadelphian and a graduate of the University of Pennsylvania School of Medicine.

THE CLARK HYDROTHERM, manufactured by the Clark Electrical Equipment Co., Warren, Pa., has been declared not acceptable for inclusion in its list of accepted devices by the Council on Physical Therapy of the A. M. A. The Clark Hydrotherm, described in the advertising matter as a "humid air fever box," was not submitted to the Council for investigation; this report is based therefore on the advertising and promotional matter distributed by the firm.

THE THIRTY-EIGHTH annual meeting of the Cumberland Valley Medical Association was held at the Potomac Fish and Game Club, Williamsport, Md., Aug. 29. A real old-time social meeting was enjoyed. The afternoon and evening, with dinner at 6 p.m., were devoted to a real get-together social gathering. The newly-elected president is Richard R. Spahr, M.D., of Mechanicsburg. Membership in this association is drawn from Cumberland and Franklin counties, Pennsylvania, and Washington County, Maryland.

ACCORDING to the Philadelphia *Evening Bulletin*, H. Albert McMurray, M.D., of Greensburg, is trying to talk himself out of a job. The Westmoreland County coroner told a women's club recently that his office should be abolished because the coroner system is "pernicious, slow, inefficient, and antiquated" and a "relic of obsolete social conditions."

A NEW KIND OF LIE DETECTOR, which reads the eyes, was announced to the American Psychological Association at State College on Sept. 7. Strange to say, it shows that a liar does not give himself away by his shifty eyes, because his eye is steadier than that of the person who is not bluffing. The apparatus, described by F. K. Berrien, of Colgate University, records the slightest motion of the eyes. In the laboratory it was said to have caught 75 per cent of lies.

RESTAURANTS WARNED.—Restaurants and food shops persisting in violating sanitary laws can be closed through the police quarantine provision of a city ordinance, the Department of Public Health has been advised by Assistant City Solicitor Earl Cahan.

If the provision is invoked, Cahan said, health authorities can place policemen in front of establishments that violate the regulations and prevent the proprietors from doing business.

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PHILADELPHIA, PENNSYLVANIA

Cahan's announcement followed the arrest and fining, Aug. 13, of 14 restaurant owners, 4 meat dealers, and an ice cream factory proprietor for violations of the sanitary laws.—Philadelphia *Evening Bulletin*, Aug. 15, 1940.

PHILADELPHIA'S BLOOD BANK, for which several hundred voluntary donors already are registered, started operation on Aug. 26. The blood will be stored for use in transfusion cases that may arise out of the national defense emergency. Monday and Thursday mornings have been set aside at the U. S. Naval Hospital to receive the blood. About 60 donors were to be handled the first week.

The blood bank was formed at the request of the U. S. Surgeon General. Similar banks are being organized in other cities. Registration of donors is being made at central Red Cross headquarters, 511 N. Broad Street.

RCA ESTABLISHES RESEARCH FUND.—A fellowship for research in biologic problems by use of the electron microscope developed by the RCA Manufacturing Co., Camden, N. J., has been established by the National Research Council through funds provided by the RCA. The fellowship carries a \$3000 stipend for 1941. A committee of scientists of the council, headed by Stuart Mudd, M.D., of the University of Pennsylvania School of Medicine, will consider the candidates. The studies will be made in the RCA research laboratories.

Designed to lead to important contributions in the war against disease, the fellowship is also expected to make the fullest benefits from the electron microscope available to researchers in many fields, according to George K. Throckmorton, RCA president.—Philadelphia *Inquirer*, Aug. 14, 1940.

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA NEWS.—Margaret D. Craighill, M.D., has been appointed acting dean of the college and began her duties on Sept. 16. Dr. Craighill received her B.A. and M.S. degrees at the University of Wisconsin and her M.D. at Johns Hopkins University Medical School, in the class of 1924. After an internship in gynecology and surgery at Johns Hopkins Hospital, she spent a year as assistant in pathology at the Yale University Medical School. She was assistant resident in gynecology at Johns Hopkins Hospital from 1926 to 1928, and for 6 months was assistant radiologist at the Howard A. Kelly Hospital, Baltimore, Md. Since 1928 Dr. Craighill has been engaged in private practice in gynecology and obstetrics in Greenwich, Conn., where she is attending gynecologist at the Greenwich Hospital. She is a member of Phi Beta Kappa, a Fellow of the American Medical Association, the New York Academy of Medicine, and a Diplomat of the American Board of Obstetrics and Gynecology.

The Committee on Therapeutic Research of the Council of Pharmacy and Chemistry of the American Medical Association has granted to Ben King Harned, Ph.G., professor of pharmacology, and Versa V. Cole, M.D., associate professor of pharmacology, \$300 for the investigation of the effects of sulfanilamide and sulfa-pyridine on hepatic function.

Esther L. Richards, M.D., associate professor of psychiatry, Johns Hopkins University, will address the college this month on "Pediatric Psychiatry."

The enrollment for 1940-41 includes 37 first-year students and 3 new members for the third-year class.

IRREPARABLE LOSS OF FUNCTION NEED NOT ACCOMPANY PARALYSIS

Paralysis does not necessarily mean an irreparable loss of function; with proper care and with nature's own tendency to restoration, voluntary use of the afflicted part frequently returns, Richard Kovacs, M.D.,

New York, observes in *Hygeia, The Health Magazine* for August.

Foremost among the factors influencing the outlook for recovery is the possibility of removing the cause. Paralysis is not a disease in itself, Dr. Kovacs explains, but a symptom of damage to the motor part of the nervous system, which consists of the brain, the spinal cord, and the nerves leading to the muscles of the body.

Recovery also depends on the proper treatment of the paralyzed part and on the amount of destruction wrought in the nerve centers. "The nervous system differs from all other tissues in the body in the respect that when central nerve cells are destroyed, they do not grow again," the author says. "Any function which depends on the action of these sensitive centers is, therefore, lost. Fortunately, in many affections of the nervous system due to disease or to injury some of the nerve cells are only temporarily benumbed by pressure or inflammation.

"Among the many forms of paralysis are the following: infantile paralysis, caused by inflammation in the spinal cord brought about by germ invasion; hemiplegia or paralysis of one side of the body, caused by hemorrhage or clotting of blood in the brain; paralysis of nerve trunks in the limb, sometimes caused by injuries or poisoning; paralysis of the facial nerve, sometimes caused by a chilling draft; and paralysis of other nerves, caused by new growths or tumors in various parts of the body. Paralysis may be due to an inflammation of the brain caused by an infection from the ear or by a contagious disease."

Although treatment varies according to the type of paralysis, the general principles of treatment include suitable rest, gentle massage, exercise, heat, and muscle stimulation. The early application of splints will prevent many deformities. Skilled technicians must administer massage and direct the exercise, for it is important that the muscles not be taxed beyond their power.

CLASSIFIED ADVERTISEMENTS

Classified advertisements are payable in advance. To avoid delay in publishing, remit with order.

RATES: 1 insertion, 10c per word; 3 insertions, 9c; 6 insertions, 8c; 12 insertions, 7c. Minimum rate for any number of words, \$3.00. A fee of 25c is charged advertisers for answers sent in care of the JOURNAL.

Notice.—The Presbyterian Hospital, in Philadelphia, offers an approved Residency in Anesthesia for a term of one year. Remuneration \$750. Pennsylvania license required. Address: F. P. Haugen, M.D., care of Presbyterian Hospital, 51 N. 39th St., Philadelphia, Pa.

For Sale.—A good location in a prosperous western Pennsylvania town, within two blocks of hospital. Excellent for a young physician. Owner retiring from practice. Address: Dept. 773, PENNSYLVANIA MEDICAL JOURNAL.

For Rent.—Well-planned suite of offices of deceased physician in established professional neighborhood. Unusual opportunity for general practitioner or one wishing to specialize. Case records available. Address: MRS. M. I. STEIN, 813 N. Second St., Harrisburg, Pa.

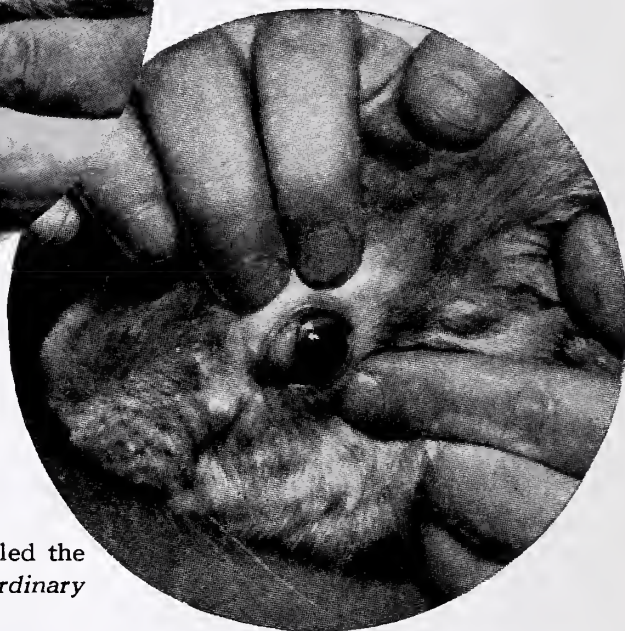
For Sale.—Home and offices of Pittsburgh physician established over 32 years. Retiring on account of health. Great opportunity for young physician to step into a paying practice and a good home. Address: Dept. 774, PENNSYLVANIA MEDICAL JOURNAL.

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BOOK REVIEWS

BAPTISM OF THE INFANT AND THE FETUS. An Outline for the Use of Doctors and Nurses. By the Reverend J. R. Bowen, Chaplain, St. Joseph Mercy Hospital, Dubuque, Iowa. Paper, 25 cents. Pp. 12. Dubuque: M. J. Knippel Company, 1939.

This is the fourth edition of this brochure, considered the standard work of its kind, and should be brought to the attention of physicians and nurses, irrespective of creed, and all hospitals.

The non-Catholic physician has no excuse for not giving proper care in this regard to his Catholic patients. We may say parenthetically that this applies to the Catholic physician who is not conversant with all of the requirements of the church.

This booklet includes the following: How to baptize; conditional baptism; the premature fetus; baptism in the uterus; when a pregnant mother is dying; when a mother dies in pregnancy; baptism of monstrosities; and a résumé.

We recommend this booklet very strongly for the rôle it serves.

A TEXTBOOK OF SURGERY. By American authors. Edited by FREDERICK CHRISTOPHER, B.S., M.D., F.A.C.S., associate professor of surgery at Northwestern University Medical School. Second edition, revised. 1695 pages with 1381 illustrations on 752 figures. Philadelphia and London: W. B. Saunders Company, 1939. Cloth, \$10.00 net.

This second edition of Christopher's *Surgery* will meet the demands of the student as well as the surgeon. The edition fully demonstrates the efficacy of collaboration in covering a large field such as surgery. The subjects are presented by 188 able collaborators. Also, a complete bibliography accompanies each section. The book is well illustrated. It should receive widespread and well-deserved popularity.

A STUDY OF JEALOUSY. As Differentiated from Envy. By T. M. ANKLES, A.P.D.P. (Lond.). Boston: Bruce Humphries, Inc., 1939. Price, \$2.00.

Jealousy, "an emotion, a sentiment, or an instinct," has always been an outstanding symptom of marital maladjustment. Medically, it has elicited further interest as a basic factor in many paranoid states. This brief brochure is an academic psychologic thesis presented by the author to the University of London as part of the requirement for a diploma in psychology. Its theme is: "Marriage is based on a sado-masochistic adjustment." The study is illustrated by 30 brief case studies, their brevity leading to the impression that only those facts are presented which prove the author's thesis and are therefore not entirely convincing. The study is of interest not only to students of social problems and psychology but to the medical profession. The work, however, is easily understandable only to those with a good grounding in psychologic terminology.

MEDICAL CARE (A Symposium). Law and Contemporary Problems (Duke University Law School, Durham, N. C.), Autumn, 1939, Vol. VI, No. 4, 186 pages. 75 cents, postpaid.

Private and governmental plans to remove economic barriers to the availability of medical care are studied in a symposium on "Medical Care" published as the Autumn, 1939, issue of *Law and Contemporary Problems*, the Duke University Law School quarterly. The

rapid spread of medical and hospital care corporations furnishing service on the prepayment plan and the pendency of the Wagner National Health Bill in Congress together provide the occasion for the publication of the 14 articles comprising this symposium.

After an introductory article analyzing the salient questions presented by the national health problem comes a group of articles directed to experimentation with plans under private auspices. Representative plans are depicted, and the ethical and legal bases of opposition to them are examined. Enabling legislation, already enacted for hospital care plans in 24 states and for medical care plans in 4 states, is analyzed, together with problems in the administration of the plans which already have been established.

Special attention is devoted to the recently organized California Physicians' Service in which 5000 of California's 7000 physicians have thus far enrolled. An article is also devoted to the medical care program developed for over 100,000 Farm Security Administration borrowers by the FSA and county medical societies in 22 states.

Among the contributors to this section of the symposium are M. W. Brown, general secretary of the Bureau of Co-operative Medicine, Dr. C. R. Rorem, director of the American Hospital Association's Commission on Hospital Service, and Dr. R. C. Williams, chief medical officer of the Farm Security Administration.

Five articles in the symposium discuss problems presented by the National Health Bill, introduced by Senator Robert F. Wagner, of New York, which would amend the Social Security Act by authorizing federal grants in aid of state public health programs and systems of health and disability insurance. Included among these articles is an analysis of the various bills introduced in state legislatures last winter looking to the establishment of compulsory health insurance systems. A detailed study is also presented of the problems of need, administration, and cost to be considered in formulating state or federal disability insurance systems.

Among the contributors to this group of articles are Dr. I. S. Falk, author of *Security Against Sickness* and assistant director of the Social Security Board's Bureau of Research and Statistics; Dr. L. S. Reed, author of *Health Insurance*; and Professor Clarence Heer, University of North Carolina economist, recently appointed by Administrator Paul McNutt to the Federal Security Agency's "brain trust."

LANE MEDICAL LECTURES: Viruses and Virus Diseases. By THOMAS M. RIVERS, M.D., Sc.D., director, Hospital of The Rockefeller Institute for Medical Research, New York City. Stanford University, California: Stanford University Press. London: Humphrey Milford, Oxford University Press. 1939. Price, \$2.50 cloth; \$1.75 paper.

This monograph embodies 5 lectures, the twenty-seventh in the Lane series. In the first lecture lymphocytic choriomeningitis is described as a new virus disease. The author and his associates were able to demonstrate this virus in the spinal fluid of several patients, and were able to pass it through several strains of experimental animals. Further proof is recorded in the successful human inoculation.

The characteristic pathologic picture induced by viruses is fully described in the second lecture. The immunologic and serologic phenomena are appropriately described, also the nature of the responsible agents, and

finally there are suggestions for prevention and treatment of virus diseases.

The monograph is enriched by the author's wide experience in virus research.

HANDBOOK OF ORTHOPEDIC SURGERY. By ALFRED RIVES SHANDS, JR., B.A., M.D., medical director of the Nemours Foundation, Wilmington, Del.; associate professor of surgery in charge of orthopedic surgery, Duke University School of Medicine, Durham, N. C. (on leave of absence). In collaboration with RICHARD BEVERLY RANEY, B.A., M.D., associate in orthopedic surgery, Duke University School of Medicine. Illustrated by Jack Bonacker Wilson. St. Louis: The C. V. Mosby Company, 1940. Price, \$4.25.

There has been a continual demand by medical students and practitioners for basic principles and facts on orthopedic surgery presented concisely and yet not lacking in detail. To fill this demand the author has undertaken a heroic task. The first edition appeared in 1937 and now, after 3 years, the necessity for a revision and the presentation of a second edition has become necessary.

The second edition has incorporated many of the criticisms that were offered by orthopedic authorities who used the volume for teaching purposes. Many new and accepted forms of therapy have been incorporated and brought up to date.

The volume consists of 477 pages of rather solid reading matter, interspersed with 154 black and white illustrations. Many of these illustrations are pencil sketches, clearly depicting the subject matter in the text. In 24 chapters the author has covered the subject quite exhaustively. He has taken care, however, to omit controversial material and has presented in the main those procedures which have been rather universally accepted.

Sixty-three pages of bibliography are found in a separate section at the end of the book, and this is a veritable orthopedic index medicus.

For the physician who is anxious to have an abridged orthopedic treatise, this volume by Dr. Shands is recommended, although it is obvious that in order to keep the material within the bounds of 477 pages it was necessary to crowd the reading matter somewhat and to utilize a thinner paper stock in printing than is customarily seen in other reference volumes.

DISEASES OF THE GALLBLADDER AND BILE DUCTS. By WALTMAN WALTERS, B.S., M.D., M.S. in Surgery, Sc.D., F.A.C.S., head of section in Division of Surgery, The Mayo Clinic, professor of surgery, The Mayo Foundation (University of Minnesota), and ALBERT M. SNELL, B.S., M.D., M.S. in Medicine, F.A.C.P., head of section in Division of Medicine, The Mayo Clinic; professor of medicine, The Mayo Foundation (University of Minnesota). Philadelphia and London: W. B. Saunders Company, 1940.

When 2 distinguished authorities affiliated with the largest surgical foundation in the nation considered it necessary to present a new volume on "Diseases of the Gallbladder and Bile Ducts," little more need be added to justify the existence of this volume. Biliary diseases present many difficult problems in surgical as well as medical practice and in this volume all of the very latest methods and the very newest treatments are presented with a degree of clearness and illustrated conciseness as to be virtually self-explanatory. A most easily readable text of 602 pages with 342 illustrations, some of them in color, the subject matter is divided into 3 parts.

The first deals with 5 chapters of anatomy, physiology, and pathology. The second part (8 chapters) embraces diseases of the gallbladder, then follows the third part, made up of 9 chapters, on diseases of bile ducts. The fourth part concerns itself with medical

and surgical treatment in 7 chapters, and the fifth and last part (4 chapters) is on preoperative and post-operative care. A very interesting addition to appendix A is the technic in the operating room by Sister Mary Williams, of St. Mary's Hospital, Rochester, Minn. Every minute detail in operating room technic is discussed, emphasizing the instruments needed, the suture material used, and the type of drains frequently employed.

The general practitioner and the surgeon need have no fear concerning the authenticity of the subject matter found in this volume, since it is all based upon intense practical experience of one of the most outstanding surgical authors of the present day. Your reviewer considers it a privilege to recommend this volume to anyone who desires to keep his reference library up to date.

MANUAL OF FRACTURES, DISLOCATIONS, AND EPIPHYSEAL SEPARATIONS. By HARRY C. W. S. DEBRUN, M.D., F.A.C.S., adjunct professor of surgery, New York Polyclinic Medical School and Hospital; associate visiting surgeon, Swedish Hospital, Brooklyn; consulting skeletal surgeon, New York Police Department. 468 pages, 150 illustrations. Chicago, Ill.: The Year Book Publishers, 1940. Price, \$3.00.

This is apparently an effort to condense a very large amount of fracture knowledge into a small book, and on the whole it has been well done. The author should be commended for including so much of anatomy, physiology, and pathology of bone trauma in his text.

The illustrations, which are plentiful, are not of uniform value. Adverse mention might be made of those of traction for numerous fractures; they could easily lead a man of limited fracture experience astray.

The book represents the opinion and probably the practice of the author. For the most part the recommendations for treatment are sound, but no surgeon of experience would follow all the recommendations implicitly. This, of course, might be said of any book on fractures because no book on fractures can take the place of the surgical and mechanical ability of the surgeon.

BOTHMAN'S FUNDUS ATLAS. By LOUIS BOTHMAN, M.D., F.A.C.S., clinical professor of ophthalmology, University of Chicago. Fifty original stereoscopic photographs of congenital anomalies and important fundus diseases—mounted on stout 7x9-inch cards bearing complete diagnostic criteria of the conditions pictured—enclosed in a cloth-covered, gold-stamped case. Chicago: The Year Book Publishers, 1940. Price, \$17.00.

In a series of 50 stereoscopic photographs, Dr. Bothman has assembled an atlas of the fundus oculi, which is a very valuable addition to the library of every ophthalmologist and student of ophthalmology.

The pictures were taken with the reflex free Norden fundus camera and magnified 3 times the original negative size, with a special stereoscopic enlarger devised by Mr. R. W. Bennett. By reason of their size, these photographs are splendid reproductions of the details seen in the many pathologic diseases and congenital anomalies.

Coupled with a brief history and physical examination of the patient concerned, and fortified by a detailed description of the fundus findings in each case, the photographs become a splendid means of teaching.

When viewed under the light of a polaroid lamp, much of the fatigue commonly incident to stereoscopic examination is avoided.

The author states that the 50 illustrations do not represent all of the pathologic states found, but that it is his intention to supplement this set from time to time with additional illustrations.

The Atlas is highly recommended.



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The comfort afforded by the incorporation of elastic sections in supports is being more and more recognized. This is especially true of the younger patient who has never worn a support; at least, nothing more than an all-elastic garment.

For the above mentioned patient, S. H. Camp & Company has designed a support (illustrated) with a fabric back from which originates the adjustment; the *strong-tension elastic front* is reinforced with light material and is provided with tabs of cloth; also, *strong-tension elastic sides*. This furnishes a cloth-to-cloth control for the adjustment and gives a degree of support to the sacroiliac joints.

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Every precaution has been taken to insure accuracy in these advertisements and in this index, but there is no guarantee against errors or omissions.

Pennsylvania physicians, regardless of age, are expected to complete and return the A. M. A. Preparedness questionnaire at once. If mislaid, request another copy from the American Medical Association or The Medical Society of the State of Pennsylvania.

A questionnaire carefully completed and promptly returned may hold great advantage for the returnee.

What hope is there for any physician who does not return his questionnaire that he may not become a round peg in a square hole? See Preparedness letter, page 69.

GOVERNMENT TO NEED TEMPORARY AND PART-TIME CIVILIAN MEDICAL OFFICERS

The expansion of the army creates a need for about 600 civilian medical officers in various grades for temporary and part-time service. The duties of full-time officers will be to act as doctors of medicine in active practice in hospitals, in dispensaries, and in the field. The duty of part-time officers will be to report for sick call at a fixed hour each day and to be subject to emergency call at all times.

The Civil Service Commission in making this announcement calls particular attention to the fact that part-time officers will be able to continue their regular practice. In order that this may be done, appointments to the part-time positions will be made of medical officers in the vicinity of the place of duty.

Information concerning these positions may be obtained from the Secretary of the Board of U. S. Civil Service Examiners at any first- or second-class post office, or from the United States Civil Service Commission, Washington, D. C. Physicians are urged to apply at once. This work is of the greatest importance to the success of the National Defense program.

STATEMENT OF THE OWNERSHIP, MANAGE- MENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUG. 24, 1912, AND MAR. 3, 1933

OF THE PENNSYLVANIA MEDICAL JOURNAL, published monthly at Harrisburg, Pennsylvania, for Oct. 1, 1940, State of Pennsylvania, County of Dauphin, ss.

Before me, a notary public in and for the state and county aforesaid, personally appeared Lester H. Perry, who, having been duly sworn according to law, deposes and says he is the managing editor of THE PENNSYLVANIA MEDICAL JOURNAL and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption.

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, The Medical Society of the State of Pennsylvania, 230 State Street, Harrisburg, Pa.; editor, Frank C. Hammond, M.D.; managing editor, Lester H. Perry; business managers, none.

2. That the owner is: The Medical Society of the State of Pennsylvania, 230 State Street, Harrisburg, Pa. Charles H. Henninger, M.D., Pittsburgh, president; Walter F. Donaldson, M.D., Pittsburgh, secretary; John B. Lowman, M.D., Johnstown, treasurer. Publication office, 230 State Street, Harrisburg, Pa.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

LESTER H. PERRY, *Managing Editor.*

Sworn to and subscribed before me this fifth day of September, 1940.

H. J. GERBER, *Notary Public.*
(My commission expires May 11, 1944.)



This page is the eleventh of a series on vitamin deficiencies presented by the research division of The Upjohn Company because of the profession's widespread interest in the subject. A full color, two-page insert on the same subject appears in the November 9 issue of *The Journal of the American Medical Association*.

The Gingival Manifestations of Vitamin C Deficiency



Gingival lesions are said to be among the most frequent anatomic changes occurring in scurvy. They occur only after dentition has taken place, and are most severe when the teeth are deformed or broken. The pathologic process begins as a hyperemia which is rapidly followed by destruction of the epithelium, and ulceration. Even in the early stages bleeding is readily produced by slight trauma; hemorrhages, while they do not lead to a

great loss of blood, may be prolonged and difficult to control. The gum necrosis is usually accompanied by dental porosity. In the advanced stages of scurvy, the teeth are loosened due to destruction of the alveolar process, and the ulcerative lesions may extend to the mucous membrane of the cheeks and tongue. Gangrene has been described as a sequel of advanced untreated scurvy.





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pays dividends.



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.. THE .. PENNSYLVANIA MEDICAL JOURNAL

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NOVEMBER, 1940

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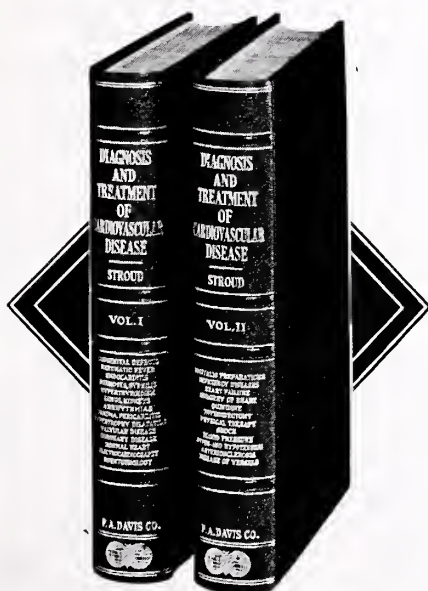
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The American Board of Obstetrics and Gynecology wishes to announce that the written examination and review of case histories (Part I) for Group B candidates will be held in the various cities of the United States and Canada on Saturday, Jan. 4, 1941, at 2 p.m. Formal notice of the place of examination will be sent each candidate several weeks in advance of the examination date. No candidate will be admitted to examination whose examination fee has not been paid at the secretary's office. Candidates who successfully complete the Part I examination proceed automatically to the Part II examination held in June, 1941.

Candidates for re-examination in Part I (written paper and submission of case histories) must request such re-examination by writing the secretary's office not later than Nov. 15, 1940. Candidates who are required to take re-examinations must do so before the expiration of 3 years from the date of their original examination.

The general oral and pathologic examinations (Part II) for all candidates (Groups A and B) will be conducted by the entire board, meeting at Cleveland, Ohio, in June, 1941, immediately prior to the annual meeting of the American Medical Association.

Application for admission to Group A, Part II, examinations must be on file in the secretary's office not later than Mar. 15, 1941.

After Jan. 1, 1942, there will be only one classification of candidates, and all will be required to take the Part I and Part II examinations.

For further information and application blanks, address Paul Titus, M.D., secretary, 1015 Highland Building, Pittsburgh (6), Pa.

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And, third, will you send a contribution today to the committee so that it may expand and intensify its work in arousing America from its rôle of sleeping prospective victim? With nation after nation it has been "too little and too late." Please make checks payable to Frederick C. McKee, Treasurer, and send to the Committee to Defend America by Aiding the Allies, 8 West 40th Street, New York, N. Y.

Tentative plans are being formed to circularize other professional and nonprofessional groups. Much will depend upon the response of the physicians. If you are in accord with our purpose, your immediate reply will be most helpful.

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Physical Therapy Meeting

GENTLEMEN:

The nineteenth session of the American Congress of Physical Therapy was held at the Hotel Statler, Cleveland, Ohio, Sept. 2-6.

The morning sessions were devoted to instruction courses in which all the important phases of physical therapy were covered by the leading authorities on each subject. This course fills a very important place in educating the general practitioner in the use of physical measures. The afternoon sessions were devoted to the presentation of papers on some of the newer advances in physical therapy.

The meetings were very well attended. William H. Schmidt, M.D., the retiring president was succeeded by



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The Society of Physical Therapy Physicians held its annual meeting during this convention on Sept. 4. William Bierman, M.D., was elected president; Frank H. Krusen, M.D., Rochester, Minn., president-elect; Kristian G. Hansson, M.D., New York City, vice-president.

This society has a limited membership and is composed of physicians teaching physical therapy in medical schools or physicians who are in charge of physical therapy departments in large hospitals. The subject of preparedness in medical defense was one of the topics under consideration. It is realized that physical therapy will play a very important part in any rehabilitation of casualties. The successful use of physical therapy during the World War was accomplished in spite of many handicaps. While there are more men interested in this work at the present time, there is still a very inadequate number of physicians capable of directing a department of physical therapy in the large hospitals. The number of physical therapy technicians who are an essential part of the physical therapy department is far less than the number that would be required.

The members of this society would be called upon to establish schools in the various medical centers for the instruction of medical officers and the training of physical therapy technicians.

The number of such schools at the present time is woefully inadequate to supply the demands of peacetime practice.

The government contemplates the establishment of 300 hospitals of 1000 beds each. The magnitude of the problem as it affects physical therapy can be readily imagined.

WILLIAM H. SCHMIDT, M.D.,
136 South 16th Street,
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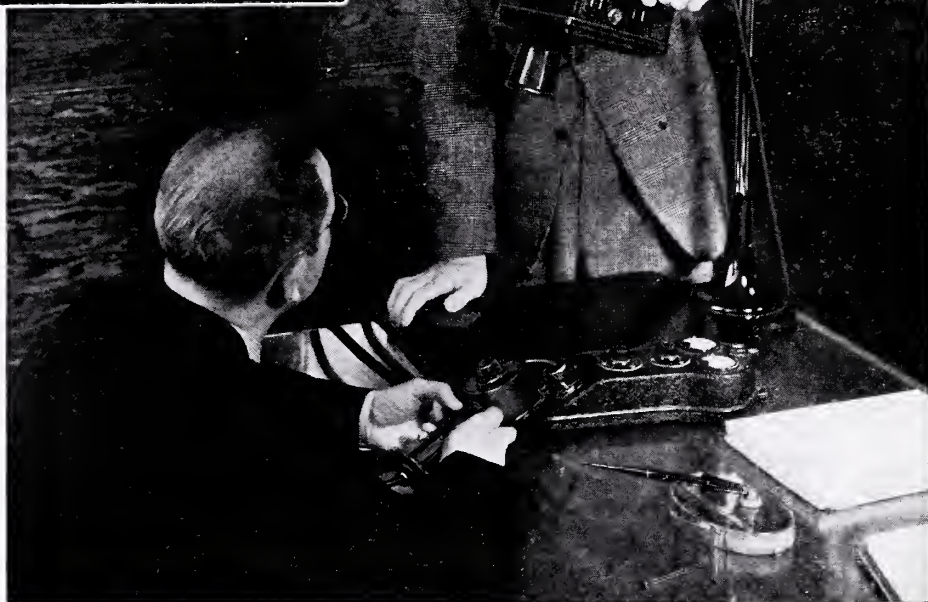
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It is worth every physician's time to study thoroughly the provisions of the new Federal Drug and Food Act. The act is now in effect and places significant restrictions on the dispensing of drugs, particularly by the pharmaceutical profession. Drugs like the barbiturates and sulfanilamide are specifically restricted in their sale, and providing the druggist obeys the law, counter-prescribing of such dangerous medicaments is definitely hampered.

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Complications Incident to Paranasal Sinusitis

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AS THE title of this paper implies, the subjects to be discussed do not deal with the diagnosis nor the ordinary treatment of paranasal sinusitis. It has to deal rather with sinal complications requiring surgical intervention. The case histories

of 103 patients so treated at the Manhattan Eye, Ear and Throat Hospital for the past 5 years have been reviewed as a basis for the following remarks. This number represents approximately 5 per cent of all patients hospitalized for sinus treatment. A tabulation of this analysis is given, rather than abstracting numerous case histories, so that at a glance the whole picture may be quickly visualized. It shows the incidence as to age, sex, the sinuses most commonly affected, the types of complications, and the important signs and symptoms. An average of 22 plus days per patient in the hospital was due to readmissions for sinus reoperations, the time-consuming treatment of osteomyelitis and brain abscess, radiated patients, and plastic operations. Later in the text illustrative case histories will be given, but not in the sense of reporting such cases.

ANALYSIS OF 103 CASE HISTORIES

Age (20 mos. to 79 yrs.)	8	Retrobulbar neuritis...	8
.....30+ yrs.	2	Neuroretinitis	2
Males	2 to 1	Optic atrophy	2
Head cold	57	Orbital edema	10
Headache	21	Subperiosteal abscess..	11
Pain or tenderness	45	Orbital abscess	9
Temperature	101°+	Orbital cellulitis	5
Lid swollen	42	Roentgen-rays:	
Periorbital swelling...	24	ethmoid sinuses frequent	
Proptosis (exophthalmic)	26	sphenoid sinuses infrequent	
Globe—restricted movement	22	Neoplasm	25
Chemosis of conjunctiva	9	Osteomyelitis	11
Failing vision	27	Pott's tumor	1
Papilledema	7	Cyst (3 dentigerous)...	7
Optic neuritis	6	Fistula	6
		Brain abscess	5
		Death	4

The ages varied from 20 months to 79 years. The incidence of males to females was practically 2 to 1. The most outstanding single symptom was head colds. Under this caption were listed patients who complained of profuse nasal discharge of short or fairly long duration, but not those who had been treated regularly for sinusitis elsewhere. The next outstanding feature was the presence of neoplasms. The term "Pott's tumor" is noted only for its comparatively infrequent use. The orbital complications of paranasal sinusitis were the most common. The periorbital regions were also frequently involved, the symptoms complained of being local headache, tenderness, pain, and swelling, and the areas being specifically frontal or supra-orbital, antral or infra-orbital, zygomatic or lateral, and nasal or mesial. Collectively, the eye symptoms—both extra-orbital and intra-orbital—were present 210 times. It may be mentioned also, in this connection, that the ethmoid sinuses were mostly affected either singly or in combination with the frontal sinuses and the antra. The sphenoid sinuses, singly or in combination, were the least frequently affected.

The accompanying illustration (Fig. 1) shows the orbit and its relationship to some of the neighboring paranasal sinuses. The ethmoid cells have been uncapped on their orbital sides to show the thinness of the lamina, and also to show the relationship of the anterior and posterior cells to the orbital contents. Infections from the frontal sinuses and the antra enter the orbit usually straight downward or straight upward, and may be anterior or posterior to the globe with signs and symptoms accordingly. To visualize orbital infections more clearly, let it be assumed that there are 3 distinct expansions of structures to be dealt with, as follows:

1. An expansion of dura, which, after it emerges from the optic foramen into the orbit, divides to form a sheath for the optic nerve and a periosteal-capsule or orbital fascia to cover the bony surfaces and to encapsulate the orbital fat in which the eyeball rests. An important anatomical fact to be remembered is that this orbital

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Fig. 1. The specimen was photographed with the source of illumination behind, in contrast to the usual reverse position.

fascia is quite loosely attached to the interior of the orbit, except at the suture lines and the orbital rim, where it merges with the periosteum of each of the adjacent bones. It is also loosely bound to the optic nerve. Take particular notice of the angle of entrance of the optic nerve through the optic foramen as it comes from within outward. The line is to about the center of the body of the malar bone. This brings it in proximity to the sphenoid and posterior ethmoid cells. Attention is called to the lacrimal groove and to the area about it for the lacrimal sac, and their proximity to the anterior ethmoid cells. The eyeball is surrounded by its own capsule, namely, Tenon's capsule. It has 2 layers, one directly in contact with the eyeball, and the other with the orbital fat. They function similarly to the pleurae. The cavity between its layers communicates with the subarachnoid and subdural spaces by way of the optic nerve. Considering the seemingly poor defensive mechanism and the numerous ports of entry for infection, it is rather startling that the orbit is not more frequently infected.

2. The expansion of the optic nerve into the retina.

3. An expansion of the merged valveless oph-

thalmic veins into a pool or lake, namely, the cavernous sinus.

Orbital infection occurs through bone necrosis and the venous channels. When the anterior half of the orbit is involved, all the external signs of such involvement may be present, namely, swelling (both periorbital and of one or both eyelids), chemosis of the conjunctiva, proptosis or lateral displacement of the globe, diplopia, and altered keenness of vision. Infection from the posterior ethmoid cells or the sphenoid sinus enter that part of the orbit occupied by most of the muscles, veins, and nerves. The latter are the second, third, fourth, ophthalmic division of the fifth, and the sixth nerves. The above signs, plus papilledema, papillitis, retrobulbar neuritis, and optic atrophy may also be present. These latter changes, except retrobulbar neuritis, are discoverable only by fundus examination. The rhinologist not versed in the use of the ophthalmoscope should always enlist the help of the ophthalmologist under these circumstances.

Due to the fact that orbital complications of sinusitis outnumbered all others, it may be opportune before taking up the subjects of neoplasms, osteomyelitis, and other less frequently encountered complications to present a working syllabus for diagnosis and treatment used in my clinic for several years, as first reported by Louis Hubert:

1. Inflammatory edema of the eyelids with or without edema into the orbit.

2. Subperiosteal abscess, (a) with edema of the lids and orbit, (b) spreading of the pus to the lids (erroneously called orbital abscess).

3. Orbital abscess.

4. Orbital cellulitis, (a) severe, (b) mild.

5. Cavernous sinus thrombosis.

1. In this group are those cases of sinusitis in which the infection does not pass into the orbit. The eyelids, due to edema, become greatly swollen, but no other external signs appear. The edema and swelling recede without further complication. If, however, this does not occur, the neighboring portions of the orbit become involved. This gives rise to further signs, such as some protrusion of the globe and slight interference with its motions. This may be but the beginning of a severe infection leading into complications as noted under 2, 3, 4, and 5 of the syllabus. Unless marked infection is present, as indicated by a rapid increase in the degree of all the signs and symptoms and a rising fever, a large percentage of the cases terminate within a week or 10 days by means of conservative treatment, namely, cold applications to the eyelids

and active intranasal sinus treatment. This form of complication is, unfortunately, too frequently the recipient of meddlesome surgery, turning a simple complication into a much more severe one, possibly terminating fatally.

2. Subperiosteal abscess is a logical result of the infection not being retarded as indicated above. It is a localized accumulation of pus between the bone and the periosteum. There are, besides the signs noted above, a marked redness of the eyelids, and a reddened, swollen area within the orbit which is very tender upon palpation. Depending upon the site involved and the quantity of pus present, the globe is more or less restricted in motion and shows a corresponding displacement. Unless opened and drained early, pus may break through into the eyelid.

3 and 4. Having passed the barriers of bone and the orbital fascia, the pus is now free to spread throughout the orbit. All signs and symptoms are aggravated. The conjunctiva becomes chemotic, the globe becomes definitely stable, proptosis is marked, and vision may be definitely lessened. This loss of vision may not be suspected by the patient, due to the swelling of the eyelids, the proptosis, and the immobility of the globe. At this time both conjunctiva and eyelids may show areas of suppuration, or even perforation. Thrombosis of the ophthalmic veins occurs, associated with increased spinal fluid pressure and a blood stream infection. The patient is decidedly ill, the temperature, at times, rising to 106 F. All the signs and symptoms of this phase indicate prompt surgical treatment.

The differential diagnosis between orbital abscess and cellulitis can be made with certainty only in this way. If an orbital abscess is present, the pus is circumscribed. The external ethmoid incision is used and the pus evacuated through an incision into the orbital fascia; drainage is instituted by means of rubber tubes. Sinus surgery should be delayed, however, until the acute symptoms abate. If the bony wall and the capsule are intact and no abscess is found after incision of the orbital fascia, a cellulitis is present. Macroscopically, no evidence of pus may be present or, at most, pin-point areas of pus. The infection has traveled by way of the veins, setting up a phlebitis or a periphlebitis which can be demonstrated microscopically later. The treatment of this type is just the opposite to the foregoing. Radical surgery is indicated. The incision in the orbital fascia must be enlarged and a radical sinus operation performed as a form of decompression to lessen the intra-orbital pressure. This method of treatment may be the means of preventing further involvement and

eliminates one of the causes of cavernous sinus thrombosis. It must be emphatically stated that performing a sinus operation alone, or incising the orbital fascia only, is a form of treatment to be avoided. It is fraught with great danger. Occasionally, a mild case of cellulitis resolves under conservative treatment.

5. Not infrequently, but mostly disastrously, occurs the condition termed cavernous sinus thrombosis. It has all the signs and symptoms of a most severe orbital cellulitis. At times there is one striking sign, namely, edema over the mastoid emissary vein of the corresponding side. This sign, associated with the presence of sinusitis on the same side as the affected orbit, followed by involvement of the orbit of the opposite side, are the 2 important signs of cavernous sinus thrombosis. A positive blood culture, while a natural sequence of events, may also be present in cellulitis of the orbit, due to thrombosis of the ophthalmic veins, as previously stated, and is not a definite sign of cavernous sinus thrombosis. Naturally, both cellulitis and cavernous sinus thrombosis may be present in the same patient. The best treatment for cavernous sinus thrombosis is prevention by rigid adherence to the above injunctions. Manifestly, the condition is not per se a rhinologic complication.

All intra-orbital complications in children should be treated early and actively. The element of time is important—delay cannot be condoned as in adults. In certain instances orbital complications appear following sinusitis, or when all signs and symptoms have practically disappeared. The very early and very radical surgery on the sinuses belongs to a former era, but this does not mean that when surgery is indicated it should not be bold and thorough. The time-tested injunction "open, disinfect, and drain," still holds good, except that disinfection as of old is not popular today.

The following case history will illustrate practically all of the signs and symptoms relating to the diagnosis of intra-orbital complications of sinusitis occurring in almost kaleidoscopic sequence and rapidity, from the sign of the first group, namely, edema of the eyelids, to intracranial invasion and death. An acute head cold, the most common symptom, was present. The absence of intra-ocular signs is noteworthy, due possibly to the lightning-like course of the disease.

N. A., male, age 33. Five days before admission developed an acute head cold. Day of admission—complained of headache and pain over the right eye. Redness and swelling of both eyelids and marked proptosis of the globe with chemosis and bulging of the

conjunctiva were present. Globe immobile. Pupil non-reactive. Fundus clear. Disk normal. No papilledema. Veins moderately distended. Temperature on admission—99 F.; same evening—106.6 F. Right middle lobe, definite dullness. Patient disoriented. Following day—deep coma; marked stiffness of neck; beginning opisthotonos; feeding tube necessary. Roentgen ray—all sinuses involved; right frontal, 4 plus; sequestrum of superior orbital wall, right.

Spinal fluid—600 mm. water pressure. Purulent. Cells, 10,000. No sugar. Lactic acid, 3 plus.

Growth—pneumococcus type X in spinal fluid and in blood culture.

Urine, acetone, diacetic acid, albumin.

Next day—temperature 107.4 F. Death.

Diagnosis—pansinusitis, orbital cellulitis, lobar pneumonia, meningitis (type X pneumococcus).

Treatment—radical frontal, under local anesthesia. Perforations found in lamina papyracea and superior orbital plate posterior to the globe. Free pus in orbit. Sulfapyridine. Blood transfusion and glucose intravenously.

The next most common complication was retrobulbar neuritis. This occurred 8 times.

G. F., female, age 39. Frequent head colds. Month ago—sudden pain in left eye, on motion. Frontal headache. Vision markedly diminished. Unable to read ordinary print. Marked temporal pallor of disk margin. Contraction—peripheral form field. Central scotoma.

Diagnosis—deviated septum, chronic pansinusitis, retrobulbar neuritis, left.

Treatment—under general anesthesia, submucous resection; left ethmoidectomy; sphenoid opened.

Result—cured.

These are typical case histories, but please note—head colds! When retrobulbar neuritis is present, the patient sees nothing and the examiner sees nothing (ophthalmologically). Usually there is a central scotoma for color. The differential diagnosis between retrobulbar neuritis and disseminated or multiple sclerosis is much clearer than formerly.

Optic neuritis occurred 6 times, and secondary optic atrophy, twice. As the former preceded the latter, they will be considered together.

H. V., female, age 14. Nasal obstruction practically complete. Head cold for 3 or 4 weeks; 2 weeks before admission—sudden loss of vision in left eye. Fingers—1 foot. Disk imperceptible. Enlarged veins; 2 hemorrhages below disk.

Roentgen ray—left ethmosphenoiditis; optic nerve close to posterior ethmoid cells.

Diagnosis—acute ethmoiditis; optic neuritis, left.

Treatment—intranasal ethmoid; sphenoid sinus opened.

Result—cured.

The 2 cases of optic atrophy had practically the same histories as above, with involvement of the ethmoid sinuses, except that in one instance it was bilateral. The treatment was radical ethmoidectomy.

It is not necessary for thick pus to be present in a sinus to produce an optic nerve complication. Frequently, there is little free pus. The important factors are a very fluid consistency of the discharge, a high toxicity, porosity of membranes and bone, and an unusual closeness of the nerve to the sinus. Direct contact between discharge and nerve is not necessary as the toxin is the actual cause. Very often pus is not discernible. Frequently, milky or "blue-milk" discharge is all that may be seen at the time of operation, especially in the ethmoid and sphenoid sinuses.

Neoplasms occurred 25 times. The sexes were practically equal in number. The average age was 41 years. The youngest patient (osteoma) was 18, and the oldest (cancer) was 64. Carcinoma occurred 12 times or 48 per cent and heads the list. Sarcoma occurred but once. Osteomata and lymphosarcomata each occurred 3 times. Osteomata formerly were considered rare growths, but no doubt, due to the extensive use of the roentgen ray for corroborative diagnostic purposes in sinusitis, they are discovered incidentally, and therefore recorded more frequently. Many times they are small, do not grow appreciably, cause no symptoms, and consequently do not demand surgical attention. The other forms of neoplasms reported in this series were osteofibrosarcomata, fibroneuromata, osteofibrochondromata, myxoid fibrosarcomata, osteofibromata, and chondromata. The latter is the rarest of all the neoplasms of the accessory sinuses. To date it is the only one of pure chondroma on record at our hospital. It was attacked surgically and treated by roentgen ray with apparent success.

The sinus most frequently invaded was the antrum. The antrum and ethmoid sinuses combined were next. The orbit was invaded twice, requiring exenteration of the orbital contents. All sinuses were invaded once (pure chondroma). This patient also developed meningitis, but recovered. Another patient, age 60, with carcinoma of the antrum, had a mastoidectomy performed and recovered. The sphenoid sinus was not mentioned at all as a primary seat of origin. A history of trauma appears 4 times, or in 16 per cent. Trauma in the regions designated preceded the appearance of the following growths: antrum—osteoma, osteofibrochondroma, osteofibroma; ethmoid sinus—lymphosarcoma. Head colds were listed in about one-third, and pain and headache in about one-half of the histories. The eyes were affected also in about one-half of the cases. Swelling of the lids, chemosis of the conjunctiva, double vision, exophthalmos, limitation of eyeball motion, and slight to complete

loss of vision were noted. Practically all the patients had a temperature between 100 and 105 F.

It is always a moot question as to whether or not the sinusitis precedes or follows the appearance of a neoplasm. The fact remains that they are associated, but sinusitis cannot be looked upon as a predisposing cause. Pain and headache are commonly associated by the laity with sinusitis or neuralgia and, unless severe, self-treatment is frequently instituted. The infiltrating neoplasms may progress to vast involvement before medical advice is sought, while the non-infiltrating ones may produce symptoms referable to a neuralgic condition that apparently requires nothing more than the layman's idea of treating neuralgia. Thus a neoplasm may cause pain in the antral area or in the alveolus. If in the latter, it is commonly stated to be in the roots of the neighboring teeth and, unfortunately, extractions may follow without relief. Puncture of the antrum may be of little help except for the exclusion of a suppurative lesion. Epistaxis and external swelling, plus eye signs, are seen only when the neoplasm has outgrown its confining walls.

Unfortunately, roentgen-ray diagnosis of neoplasms of the accessory sinuses is not definite unless there are bony changes in the surrounding walls of the affected sinuses or the presence of neoplasms showing osseous or osteoid tissue. However, when there is suspicion of an antral neoplasm in a patient in the cancer-age bracket, puncture and irrigation of the antrum should be performed. If there is no pus, but a serosanguineous return flow is obtained without amelioration of the indefinite symptoms, an exploratory operation should be performed. If a neoplasm is discovered, it should be removed and radiation instituted immediately or after a positive tissue report is received. Manifestly, a sinusitis of any type may occur at any time during the progress of a neoplastic growth, and it must be borne in mind that such an eventuality is possible. It is obvious from the foregoing that the most important factor in the treatment of neoplasms of the nasal accessory sinuses is early diagnosis. If not accomplished early, treatment is, not infrequently, of little avail.

There were 3 cases of dentigerous cysts, one following trauma, and one associated with extractions of 3 upper teeth on the same side. Ordinary cysts of the antrum occurred 4 times and were always associated with a history of frequent head colds or attacks of sinusitis. There may be complaints of pain and swelling in the antral region. Under the above conditions the use of

the roentgen ray is imperative for a correct diagnosis.

The 6 fistulas, following operation, were closed by a plastic operation.

Osteomyelitis, one of the dreaded complications of sinusitis, was first brought to the attention of the rhinologist about 40 years ago by Tilley and Luc. They reported cases simultaneously, but independently. Since then much interest has been displayed in its treatment and, consequently, much controversy has arisen. This obtained especially within the past decade, as up to a few years ago the conservative treatment prevailed. With the advent of bolder treatment, more and more cases came to operation; consequently, a radical technic became the vogue and, happily, the mortality of this complication has been markedly lessened.

The route of infection may be by continuity, a septic thrombophlebitis, and by way of the haversian canals, or in the long bones by means of the blood stream. When a septic thrombophlebitis is the mode of invasion, there may be areas or "buttons" of bone affected, surrounded by apparently normal bone. Bony sutures may or may not form natural barriers to the spread of the infection, depending upon whether or not the pathway is blocked by intervening dura and periosteum, and whether or not the medulla is continuous from one bone to the other. Vascularity is an important factor and, consequently, osteomyelitis is most commonly a disease of the young. There seems to be some relationship between the type of operation performed, especially the Killian operation, and the incidence of this complication. It follows operations performed by the experienced or the less experienced surgeon. It is entirely a question of resistance by the bone surrounding the sinus. As it occurs in proximity to the source of the infection, the treatment differs from that which is induced by blood stream infection in the long bones, as both the source of the infection and the bone affected must receive radical treatment simultaneously. There is no way to determine before operation whether this or that patient will develop osteomyelitis. It may occur 2 weeks, 2 months, or 2 years later, but in the latter instance it is due to reinfection of the sinus and cannot be associated primarily with the operation. Spongy bone is not a prerequisite for the occurrence of osteomyelitis, as it occurs in such bones as the nasal, ethmoid, and lacrimal.

It is not necessary to detail the signs and symptoms of acute or chronic sinusitis. It suffices to stress some of the important signs and symptoms associated with osteomyelitis.

Edema is a special and most important sign. It is not to be confused with the edema seen in acute frontal sinusitis, nor with the periorbital edema associated with orbital complications of sinusitis. This type of edema is above the frontal sinus and may reach to the hairline. Naturally, it may merge with that associated with the acute sinusitis, but it practically outlines the area of infected bone. (Trichiniasis may give rise to an edema in the region of the forehead.) Edema is the first and most important of all signs and precedes the diagnostic importance of the roentgen ray by 7 to 10 days or more. This lag in the diagnostic value of the roentgen ray is due to the slow loss of calcium in the infected bone. Some areas lose calcium more rapidly than others, thus giving rise to the moth-eaten appearance of the bone on the roentgen-ray film. Edema, associated with tenderness in the same area, headache, septic fever, and leukocytosis should be sufficient to direct attention to the possible presence of osteomyelitis in any form of sinusitis—acute, chronic, or following trauma. The latter was not a factor in this series, and only once was swimming associated with osteomyelitis as a contributory cause. It may be well to mention at this time that not infrequently, in infants, a tender swelling may appear over the antral region associated with a putrid discharge from the nose and into the mouth. It is incorrectly diagnosed as "sinusitis," whereas it is a periostitis and necrosis, or osteomyelitis of the neighboring bone due to an infected tooth sac.

Edema and tenderness within the area of the edema were present in all of the cases reviewed. Headache was a prominent symptom. The ages varied from 21 months to 65 years. The ratio of males to females affected was 9 to 2. This is a somewhat different ratio than has previously been reported. All patients were white, except one, a negro. The bone most frequently affected was the frontal, 9 times, then the maxillary and ethmoid, once each. The latter occurred in the 21-month-old patient. In lieu of giving detailed histories, an enumeration of some outstanding features will be noted. In one instance a central facial paralysis and a partial paralysis of the left arm and beginning left leg and abdominal muscles, with abscesses of the right orbit and the brain, occurred with recovery. In another instance, the patient, age 9, was operated upon for osteomyelitis of both bones of the right forearm, followed by ankylosis of the elbow joint. This occurred 22 years previous to the recent attack of frontal osteomyelitis. There was one case of atelectasis with recovery. The following abscesses were encountered: 1 brain, 1 subdural,

1 epidural, 2 subperiosteal, and 1 superficial ankle. A diagnosis of osteomyelitis was made 7 times out of 11 before the roentgen ray demonstrated its presence. The bacteriology was simple. *Staphylococcus aureus* predominated. In 2 instances the *Streptococcus hemolyticus* was present, once alone, and once in combination with the staphylococcus. Both patients died.

Two types are recognized—the spontaneous or that occurring concurrently with the sinusal infection, and that following operation. There are other classifications such as localized, rapidly spreading or fulminating, and simple perforating. Potentially, they are all bad, and while conservative treatment may cure a small percentage, there is always the risk of pus being left in deep. Even after trephining, pus may not appear immediately, but by waiting a few seconds it may be seen to emerge slowly from under the edge of the bony opening. If too much haste is made, this pus may be overlooked and an avoidable secondary complication is added. Pus should always be suspected and searched for diligently.

The method of treatment is, as far as possible, prophylactic. Whenever possible, allow an acute sinusitis to "cool off" before doing a radical operation. This will entail active intranasal treatment for the sinusitis, or giving vent to pent-up pus in the sinus by making a conservative opening in the sinus wall in the line of the proposed future operative procedure. Naturally, the freer the drainage is after a radical operation, the less the chance for osteomyelitis to develop. Therefore, packing should not be too tight and closure of the wound not too complete. A secondary or plastic operation on the sinus is much more to be desired than an operation for osteomyelitis. Eliminate curettement of the bone edges. Use the greatest care to elevate the periosteum just sufficiently to easily bite off bone with rongeurs, and exercise great care not to expose the diploic structure beyond the confines of the sinus wall. To do so is to invite infection. If it is opened, the line of exposure should be touched with tincture of iodine and a flap of periosteum placed over it. The radical treatment is removal of the area of infected bone, whether small or large.

For involvement of the frontal bones the incisions most commonly used are the upright U, the inverted U ($\cap$), the coronal, and the inverted T ($\perp$). The latter incision is popular. For exposure of one frontal bone, a right or left angle incision from the midline is used. Drill holes, by means of the Hudson or other drill, or troughs by means of chisels, are made an inch or more away from the edge of the area infected.

The intervening pieces of bone are removed by means of the Gigli saw. The anterior and posterior walls of the frontal sinus are removed. If a large defect is present, the soft tissue is rolled back and secured by stitches. The whole defect is lightly covered with gauze kept moist with a solution of sodium hypochlorite. This method gives free access for frequent and thorough inspection of all parts of the wound. A plastic operation should be delayed until all chances for complications have passed—weeks, or better—months.

At times the whole calvarium is removed. Despite the gross defect occasioned by such a radical attack, complete restoration is possible. Repair occurs either by natural regeneration, or aided by plastic operations, including the insertion of bone grafts, either single or multiple, large or small. By means of the roentgen ray, progressive regeneration of bone can be demonstrated from time to time. The superior longitudinal sinus, beginning blindly as a string-like vessel at the foramen caecum between the frontal and ethmoid bones, may be flanked by an infected frontal bone on each side. Contrary to

the usual belief, it may be treated in a similar manner to a lateral sinus, both anatomically and surgically. Blood transfusions should be used ad lib., before, during, and after operation, as indicated.

Death occurred 3 times in the series of 11 cases of osteomyelitis, giving a mortality percentage of slightly over 27 per cent. This is lower than in most reports. All of these deaths occurred in the postoperative type of osteomyelitis.

The last word in the treatment of osteomyelitis has not been said. The treatment has progressed from the conservative to the radical, and the radical treatment will, in time, be so modified that hospitalization time of such patients will be greatly shortened. Therefore, I cannot do better than to refer you to the article on osteomyelitis by Harris P. Mosher, read at the A. M. A. convention, Section on Otolaryngology, last June in New York City, also the discussions by Samuel Skillern and Joseph E. J. King. I also wish to call attention to the work of Oscar V. Batson on the function of the vertebral veins as published in the *Annals of Surgery*, July, 1940.

CANCER IN ALLEGHENY COUNTY

In announcing results for the third area studied in a sampling survey of cancer incidence in the United States—Pittsburgh and the remainder of Allegheny County, Pennsylvania—Arthur J. McDowell of the United States Public Health Service reported, Aug. 15, a total of 6103 cases either under medical care or observation or dying of cancer during the year 1937 (Public Health Reports, Vol. 55, No. 32).

Over 50 per cent of the cases of cancer in the Pittsburgh area were reported by only three-tenths of one per cent of the physicians and 16 per cent of the hospitals. On the other hand, about one-half of the physicians and hospitals saw no cases of cancer during the year.

The 3 most important primary sites among males were the digestive tract, genito-urinary system, and the skin; for females, the genito-urinary system, breasts, and digestive tract.

The brain, digestive tract, and respiratory system are the sites with the highest ratio of deaths to total cases, the survey showed.

Eighteen per cent of all cases reported were under age 45. The median age was 57 years; it was 59 for males and 56 for females. The cases among males tend to be concentrated in the older ages considerably more than do those among females. This results from the fact that two-thirds of the malignant growths of the breast and genito-urinary system among females occur in the age group 40 to 70.

"Study of the duration of the cases revealed that 42 per cent of all cases reported had a duration of less than 6 months. Fifty-nine per cent of the fatal cases

had been first diagnosed as malignant less than 6 months before death and 80 per cent of them less than 12 months before death. Five per cent of the total cases reported had a duration of 5 years or over. The duration varied widely among the different sites. Cases of malignant growths of the brain and respiratory system had the shortest duration and those of the breasts, skin, and buccal cavity the longest duration."

The ratio of cases first seen in 1937 to cancer deaths in 1937 was 3 to 1.

57 YEARS SINCE

At the thirty-fourth annual meeting of The Medical Society of the State of Pennsylvania held in Norristown in 1883, action was taken "requesting the physicians of every county to institute at suitable points courses of instruction on the art of nursing for such persons as may be desirous of availing themselves of its benefits."

At this same meeting (1) "the Committee on State Board of Health was reappointed and requested to continue its efforts to obtain the passage of the act* for a State Board of Health"; (2) "The Committee on Legislation reported its efforts for the past 10 years to obtain a proper act for the registration of the practitioners of medicine, and after giving in detail the opposition met with, etc., suggested the discharge of the committee."

* Finally enacted in 1887.

DIABETES

VII. The Management of Pregnancy in Diabetes

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THE pregnant woman presents changes in each trimester of sufficient importance that their consideration is necessary before any discussion of the management of pregnancy in diabetes is possible. A thorough understanding of these changes will simplify greatly the management of both the diabetes and pregnancy.

Prior to the use of insulin, fertility in the diabetic female was relatively rare—2 per cent. Those who were fertile were usually the mild cases of diabetes, and if not very mild, most of them aborted in the early months of pregnancy, and this obviated the necessity for the consideration of the latter trimester. Since the advent of insulin the incidence of fertility is much greater (20 per cent), and coincidentally there will be much more necessity for the management of these cases. At the same time the mortality of diabetes in pregnancy has dropped from approximately 20 per cent to about 1 per cent in all cases, and much less in the carefully controlled cases. The fetal mortality rate unfortunately has not improved as markedly, for it has only dropped from 60 to 40 per cent—and that means for every 10 women there will be 6 babies—partially at least from the fact that certain of the etiologic factors causing death of the fetus in utero have been poorly understood and many of them are still very obscure.

Changes in the maternal organism which are relevant to the management of diabetes may be briefly summarized as follows (1) The basal metabolic rate gradually increases during pregnancy until during the last month it averages

about plus 14 per cent. (2) The alkaline reserve is diminished with a tendency to acidosis. (3) The carbon dioxide combining power of the blood averages about 5 per cent lower than normal. (4) The renal threshold to glucose becomes lower. (5) The glycogen stored in the body becomes less in amount. (6) There is an increase in size and number of the islands of Langerhans beginning in the second trimester. Most of these factors outlined are relevant to acidosis, so that the margin of safety is much less than in the non-pregnant woman.

Next we must consider the changed metabolic necessities in the mother. There is seldom lack of fat, protein, or carbohydrate in the normal pregnant woman in this country, where most individuals use about 200 or 300 per cent of their metabolic requirements. However, the diabetic differs in that her intake must be much more accurate and there

cannot be overloading as is the general custom in this country. Most observers agree that 50 grams of glucose are necessary for the continued growth of the baby in addition to the usual amount needed for the mother's metabolism. Also, 25 grams of balanced protein in addition to the 75 grams are usually advised. In this connection it is worth while to note that there is very little proof that increased amounts of protein are harmful to the pregnant woman or that there is any special increase in the appearance of the late toxemias of pregnancy following high protein diets. On the other hand, the dietetic group of late toxemias with edema from insufficient protein are well recognized at the present time.

In the last trimester there may be less insulin required to maintain proper sugar levels in the

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pregnant diabetic because of the elaboration of the insulin by the fetus. While this point has been debated, experimental evidence is strongly in favor of this occurrence in a large proportion of cases. Necropsy of the fetus shows an increase in the number and size of the islands in a large proportion of cases. Animals may be pancreatectomized late in pregnancy and not die from disturbance of their sugar metabolism until after the uterus has been emptied. This was done with a pregnant bitch. The time of the elaboration of insulin by the fetus is variable, and this adds to the difficulties. However, these are variable factors and seemingly do not take place in all cases, but are the most important consideration in caring for each individual case. The occurrence of intra-uterine fetal death is a factor which gravely affects the glucose metabolism and probably often precedes and perhaps causes coma in many cases. It is difficult to separate cause and effect, even in retrospect, but there are certain factors which may be considered that permit a clearer conception of the probabilities.

1. Let it be said that acidosis seems to be much more fatal to the fetus than hypoglycemia. Repeated occurrence of hypoglycemia often has had no effect on the fetus, while acidosis even in its milder form may be immediately fatal. It does not seem that keeping the blood sugar below 160 is enough, but urinalysis should include acetone and diacetic acid tests and the carbon dioxide combining power of the blood should be determined if we are to pick up those mild cases which will cause fetal death.

2. There is a disturbance of the estrin-prolan balance which may play a rôle in the death of the fetus. Demonstrable endocrinopathies other than diabetes are present in many diabetics and their occurrence is suggestive in this latter regard.

3. Many writers mention the increased occurrence of late toxemia of pregnancy in the diabetic. Perusal of a group of case histories has suggested to the author that many of these people have had dietetic nephrosis, and it is urged that they be given sufficient protein to keep them in balance.

4. There is a considerable increase in the number of fetal anomalies, various groups reporting as high as 10 per cent.

5. Finally, in about 40 per cent of diabetics going to term there is considerable overgrowth of the fetus. This is a point which should be borne in mind at all times by the obstetrician. Evidence seems to point to the usual somewhat higher than normal blood sugar levels as etiologic of this overgrowth. Later there have been sev-

eral papers blaming this on pituitary secretions. Many authors suggest that any woman giving birth to a baby weighing more than 9 pounds should be kept under observation for diabetes following her pregnancy.

The preceding points have not been supported by argument nor can they be in a discussion of this length, but seem to the author to be a consensus of opinion at the present time. The knowledge of these factors is essential to the proper management of the diabetic in pregnancy. So beyond doubt the diabetic specialist and the obstetrician must work in closest collaboration in the management of these cases. Frequent conferences, discussion, and knowledge of the other's problems are essential.

Cases resolve themselves into 2 groups—those having demonstrable diabetes before pregnancy and those discovered during pregnancy. In the diagnosis of diabetes during pregnancy where there is no preceding history the following points must be borne in mind: (1) Routine urinalysis will often disclose latent diabetes because of the increased metabolic needs of later pregnancy plus the lowering of the glucose threshold. Any woman having sugar 2 per cent in her urine during pregnancy should be considered as a diabetic until proved otherwise. A thorough study including tolerance tests should be insisted upon. Lactose may be separated by the fermentation test. (2) Mycotic vulvovaginitis is much more common in the diabetic and all cases presenting this condition should have a blood sugar test at least as well as the usual routine urinalysis. The urinalysis may be negative for sugar, for the vaginitis is probably more dependent on the increase of glucose in the epithelium of the vulvovaginal mucosa than from the urine which is spilled over it. Along with the consideration of these cases of mycotic vaginitis, which are most often caused by *Monilia albicans*, may I suggest that 2 to 4 per cent aqueous gentian violet vaginal instillations plus mild alkaline douches will aid considerably in the comfort of these patients. (3) Habitual abortion should include in its etiologic study a search for diabetes, which may play the leading rôle.

The obstetrician will often be asked whether a diabetic woman should become pregnant. Some factors must be borne in mind in answering this question: (1) Economic and medical co-operation will be necessary to insure the greatest chance of a living mother and baby. (2) There is a high mortality of the fetus at its best. (3) There is quite some chance of the offspring being a diabetic. The percentage of offspring who have diabetes varies in reports by various

authors, but it seems that probably 15 per cent will have either diabetes or vascular disease to which it is closely akin. (4) There do not seem to be any maternal sequelae of childbirth relative to the diabetes following pregnancy. (5) There is an erroneous understanding among the laity that pregnancy improves the diabetes, the fallaciousness of which should be explained to the patient.

In the first trimester the occurrence of nausea and vomiting to cause acidosis is the primary factor to be borne in mind. Should vomiting of any moment be developed, hospitalization is necessary with hourly control of the diabetic situation, including the control of the acidosis. It is the custom to give these patients intravenous glucose and insulin until in balance. The free use of sedation by one of the barbiturates to aid in the control of vomiting is most important. Phenobarbital by mouth in large enough doses so that the individual starts to live a vegetative life is most often used. Sodium phenobarbital may be used hypodermically.

During the second trimester the development of acidosis and keeping the weight gain of the mother at a normal level of one-half to three-fourths of a pound per week are the most important factors to be borne in mind. Observation at this time will usually be suggestive of when overgrowth of the fetus is apt to occur, and keeping the level of the blood sugar as near normal as is feasible may aid in control of the weight of the baby.

Early in the third trimester vigilance will have to become very exact if pregnancy is to progress in its normal fashion. The blood sugar estimations will have to be done at frequent intervals, perhaps once or twice a week. If at any time there is evidence of elaboration of insulin by the fetus, it would probably be wise to hospitalize the patient and make the survey of the situation.

As parturition approaches, the obstetrician should begin to have rather well-defined ideas of the obstetric management of each individual delivery. Should the fetus seem the size of a full-term pregnancy during the eighth month, cesarean section should be considered. Free use of the ante partum cephalometer is of value at this time in ascertaining the size of the baby. At the same time the roentgen ray should show any gross fetal anomalies which may occur, especially anencephalus. Obstetric findings suggestive of

a long, hard labor should influence the obstetrician toward cesarean section. Primiparas who engage the fetal head early or multiparas who have had no overgrowth of the fetus giving signs of cephalo-pelvic disproportion should be delivered by the vaginal route.

Delivery at any rate requires the same preparation of the diabetic as any other surgical procedure:

1. Control of diabetes with blood sugar below 170, no acidosis, and proper insulin balance.

2. During operative-postoperative period give same amount of carbohydrate divided into 4 or 6 feedings by mouth or vein with adequate insulin.

3. Frequent blood examinations to regulate insulin balance.

Immediately after birth the infant is apt to have a hypoglycemia of some severity. This is because of the increase in insulin production which has been carried on in intra-uterine life. Some of the lowest blood sugar levels recorded have been from infants of this kind. It seems that giving a simple glucose solution by mouth usually relieves this. That lasts about 10 days.

Diabetic mothers seldom have breast milk. About 1 per cent may. The knowledge of this fact will avoid attempts to nurse the newborn and they should early be put on suitable artificial feedings.

Summary

1. Closest co-operation of the obstetrician and the diabetic specialist is necessary in the proper management of diabetes in pregnancy.

2. Acidosis, even in its mildest forms, must be prevented.

3. Acidosis, endocrine imbalance, development of fetal monstrosities, and overgrowth of the fetus cause the fetal mortality rate to be about 40 per cent at the present time.

4. Cesarean section must be considered in more cases than in the normal management of labor.

5. The production of insulin by the fetus complicates the management of the diabetes during pregnancy and the management of the newborn infant.

6. Mycotic vulvovaginitis and habitual abortion should indicate diabetic studies.

7. Diabetic mothers seldom have adequate breast milk.

Tularemic Pneumonia

Its Recognition and Prevention

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PNEUMONIA of tularemic origin is best considered an integral part of the disease, as 90 per cent of the cases of tularemia reveal abnormalities of the chest by roentgen ray, 50 per cent have pleural or lung involvement clinically, and at least 18 per cent have definite pneumonic consolidation.

A pneumonic process specific to tularemia was first noted in 1924 by J. R. Verbrycke, who found caseation necrosis in the base of a lung of a victim of this disease. No mention was made of the relationship of these nodular lesions and the disease itself. W. M. Simpson reported in 1928 a case of fatal tularemia with necrotizing nodules in the lungs. Richard Bardon and George Berdez reported also in 1928 a tularemic necropsy with caseous pneumonia very similar to tuberculosis. Also in 1928 C. W. O. Bunker and E. E. Smith reported 4 cases of caseous pneumonia, one of which showed *Bacterium tularense* in the sputum. Since 1931 tularemic pneumonia has appeared in the literature as a clinical entity more frequently.

The causative organism (*Bact. tularense*) has reached man from more than 20 wild life sources; however, infected rabbits were the source in over 90 per cent of the reported human cases. It has been well established that the rabbit tick (*Haemaphysalis leporis-palustris*) is the vector that is chiefly responsible for the perpetuation of the disease in the rabbit population. Man contracts the infection by (1) direct contact with the infected animal; (2) intermediate host such as the bite of an insect carrier; (3) ingestion of infested undercooked meat, and (4) more or less unusual manners such as injury while performing a necropsy examination on an infected case, laboratory technicians working with the organism, cleaning infected domestic chickens, and the bite or scratch of the domestic cat. There are occasional reports of direct man-

to-man transmissions, but these are surprisingly rare when we consider the frequent exposures from dressing wounds, incising buboes, and performing paracenteses.

Incidence

The Pennsylvania incidence of the disease is of interest because it demonstrates how a specific disease appears in a community. During the decade of 1920-1930 tularemia was found fairly frequently throughout the mid-west section of the country and not until 1928 were the first 2 Pennsylvania cases reported. The following year another 2 cases were reported. All of these patients had killed or dressed rabbits from out of the state. In 1930 in the vicinity of Pittsburgh there occurred 8 cases contracted largely from rabbits shipped from the west; these victims were mainly butchers, cooks, and rabbit-cleaners. Outside the Pittsburgh area 4 other cases occurred that year, 3 of these receiving rabbits from out of the state and 1 in Franklin County who had shot a rabbit in the vicinity where Kansas rabbits had been released. From 1931 to 1934 a total of 43 cases were reported, many being traced to killing or cleaning of rabbits from Missouri, Iowa, and Kansas. The Pennsylvania incidence has gradually risen; in 1938 a total of 29 cases were reported and last year there were 49; the 1940 incidence is higher, showing 41 cases from January to May. The Pennsylvania total to June 1, 1940, is 219 cases.

During the past few years the disease has apparently become well established in the rabbit population of Pennsylvania and is probably here to stay. While many other wild life sources are known to convey the disease, no recent study has been made in the Pennsylvania cases to determine what percentage of infections arise other than from rabbits; it is thought that infected rabbits are responsible for more than 90 per cent of the cases in this state.

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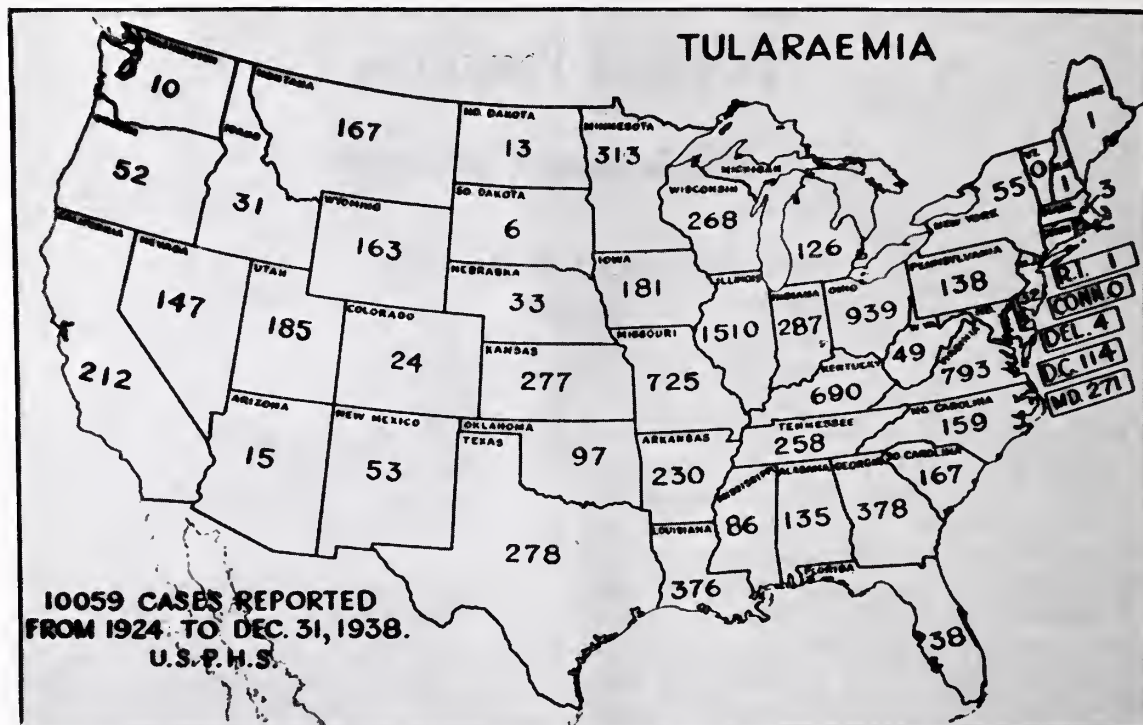


Fig. 1. Geographic distribution of tularemia throughout the United States. Including 1939 there are now 12,296 cases.

It is highly probable that the known incidence of the disease is not a true guide to the actual number of cases that exist. However, the profession and the public are becoming increasingly aware of its existence and the dangers, and in future years a great deal more accurate information will be collected concerning its incidence, course, and complications.

Symptoms and Physical Findings

The sequence of events in tularemia and the subsequent pneumonia can be best understood if the mechanism of invasion and tissue reaction is reviewed. A primary lesion usually develops at the site of inoculation; this small papule rapidly enlarges and ulcerates leaving a punched-out ulcer with a necrotic floor. The lesion may be single or multiple and is absent in 10 per cent of the cases as the organism may penetrate without producing any local reaction.

There is usually a primary bacteremia which persists for 7 to 10 days and results in the formation of a number of focal necroses in the lung, liver, spleen, and lymph nodes. Regional lymph node involvement results from the direct extension of the organisms along the deep lymph channels; regional nodes are enlarged in 90 per cent of the cases. Occasionally this primary bacteremia is a septicemia from the onset in an individual who has little or no natural resistance, resulting in death within 14 days.

This primary bacteremia disappears as antibodies are developed. Likewise, the areas of necrosis in the lungs, liver, etc., heal with scar formation as resistance appears. During this initial stage pulmonary foci may cause areas of bronchopneumonia or liquefy into small abscess formation. A heavy pulmonary involvement may simulate military tuberculosis. Parallel changes may occur in other organs.

As most deaths occur at a later stage and as there is considerable cultural and necropsy evidence, Lee Foshay, Edward Francis, and other leading students of the disease have postulated that there is a second blood stream invasion in the majority of fatal cases. This septicemia arises from any one of the previously established areas of necrosis by ulceration into a blood vessel or by direct invasion from the lymph tissue to the blood stream. This septicemia results in the production of countless areas of necrosis in any organ, but chiefly the liver, spleen, lungs, and lymph nodes.

The incubation period of tularemia varies from a few hours to 13 days, but it is usually 2 to 5 days. The onset is frequently abrupt with chills, fever, sweats, headache, malaise, and various gastro-intestinal symptoms. Great prostration is the rule. The primary lesion with regional adenopathy is present at the onset or appears in 24 to 48 hours. Visible lymphangitic streaks appear only when there has been sec-

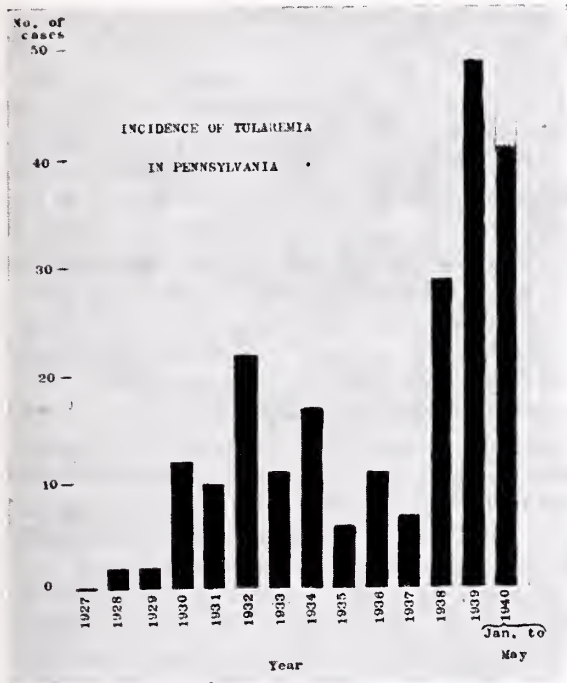


Fig. 2. The annual incidence of tularemia in Pennsylvania demonstrating the recent increase. Pennsylvania total of tularemia is 219.

ondary infection of the primary lesion. Fever is always present and averages 102 to 104 F.; its duration in uncomplicated cases is from 2 to 4 weeks. When complicated by pneumonia or suppurating buboes, it may last several weeks or even months.

Cough is an early and transient symptom and disappears by the second week. Ample roentgenologic studies indicate that minor degrees of pulmonary changes occur in 90 per cent of all cases, but only 18 per cent of these develop pulmonary lesions large enough to be found clinically or to be of any significance.

Tularemic pneumonia is a manifestation of

the hematogenous spread of the infecting organism. The presence of repeated chills with ascending temperature, a severe cough, thoracic pain, and shortness of breath should direct the examiner's attention to the chest. Increasing dyspnea and cyanosis with a cough are also important clinical features. The sputum is usually not profuse and is rarely blood-tinged. The causative organism is occasionally demonstrated in the sputum.

Pulmonary signs may be present at the onset of the disease, but more frequently they appear after the initial symptoms. The clinical signs are variable; they appear and disappear from day to day unless the process has become massive. Usually both lungs are affected but the signs are, as a rule, more marked on one side than on the other. At first the signs may be those of capillary bronchitis with the presence of fine crepitant râles and the absence of definite areas of dullness. As the lesions progress, patches of impaired dullness with coarser râles will be found. As the process coalesces, actual dullness with tubular breath sounds are noted. These changes, as portrayed, are extremely variable; the course may be fulminating and termi-

TABLE II
THE INCIDENCE OF THE FOUR CLINICAL TYPES AND THE FREQUENCY OF PNEUMONIA IN THE 600 CASES (FOSHAY)

Clinical Type	No. of Cases	Frequency per cent	No. of Cases with Pneumonia	Pneumonia Frequency per cent
Ulceroglandular ..	525	87.5	80	15.2
Glandular ..	18	3.0	2	11.1
Oculoglandular ..	11	1.8	1	9.1
Typhoidal ..	46	7.7	24	52.2
Total ..	600	....	107	17.8

nate fatally in a few days or progress slowly over a period of weeks. If recovery occurs, the signs clear very slowly, persisting for a long time after constitutional symptoms have disappeared.

Pleural effusion appears in about 15 per cent of the cases reported. It may occur at the onset, but more frequently appears during the course of the infection. The effusion may or may not be associated with intrapulmonary involvement. The fluid is exudative in character with lymphocytes predominating in the cell count. The Bacterium tularense has been rarely demonstrated in the fluid, but it is possible to agglutinate the organism in high dilutions with it. With pleural fluid occurring alone at the onset of the disease

TABLE I SOURCES OF INFECTION FOR THE 600 ACUTE CASES (FOSHAY)	
Rabbits	519
Squirrels	10
Tick bite	6
Cat bite or scratch	5
Chicken	3
Quail	2
Opossum	1
Deer fly bite	1
Pheasant	1
Grouse	1
Skunk	1
Hunting coat	1
Dressing primary lesion	1
Laboratory work	1
Rabbit skins	1
Unspecified	46

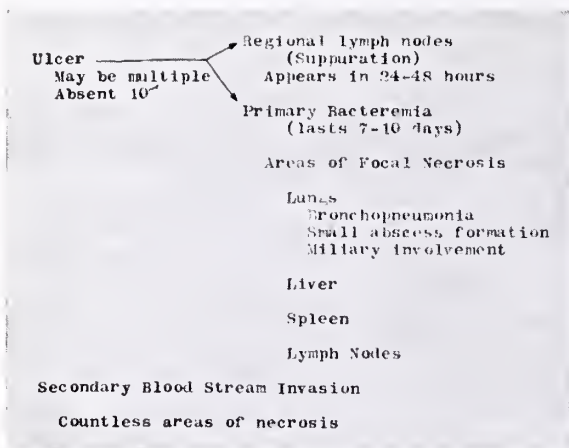


Fig. 3. A diagram demonstrating the mechanism of bacterial invasion and tissue reaction.

the difficulties in differentiating this disease from tuberculosis are obvious.

Besides capillary bronchitis, bronchopneumonia, and lobar pneumonia, the process may resemble the signs of lung abscess. For a period of a week or more there may be a single area of moderately impaired dullness with harsh or definitely tubular breath sounds confirmed by a typical roentgen picture of a solitary abscess. This lesion may progress to cavity formation or slowly regress. When the disease progresses slowly throughout both lungs, the signs may be those of multiple cavitation.

Tularemia blood agglutinations and skin tests should be obtained on all atypical cases of pulmonary lesions, and W. M. Simpson as early as 1928 suggested that in many cases tularemia consolidations are erroneously diagnosed as bronchopneumonia.

Diagnosis

The most important thing is to have tularemia in mind. If the patient gives a history of cleaning rabbits, has a well-defined ulcer with regional adenopathy, and the physician is thinking of tularemia, the presumptive diagnosis is fairly easy, but unfortunately many of these classical findings are absent or are obscured. The most a clinician can do in these cases is to suspect the possibility of tularemia infection, as the definite diagnosis depends on laboratory procedures. An early exact diagnosis is essential to eliminate other pathologic conditions causing ulcer and regional adenitis as well as to include the glandular and typhoid types of tularemia. It is even more essential because of the necessity of early administration of the specific antiserum.

Frequently the site of entry has either partially healed or has been treated with local antiseptics making culture unsatisfactory. More

commonly the original ulcer has been contaminated with ordinary microscopic organisms that grow out or obscure the *Bact. tularensis*. Another factor adding to the difficulty is the fact that organisms of tularemia grow very slowly and in the severe cases the fatal issue occurs before bacteriologic diagnosis has been made.

Blood cultures offer much the same problem in diagnosis, as here again the organisms grow slowly, frequently requiring 4 days before they are recognized. In the event that the first blood specimen did not happen to contain the *Bact. tularensis*, the time required may easily last longer than the disease.

Agglutination tests of the blood are of great value, being positive in approximately 100 per cent of the cases, but this test is of no value in early diagnosis because it does not appear until the second week and sometimes not until the third or fourth week. A titer of at least 1:80 is usually necessary for diagnosis, but lower values may be significant if there has been a previous negative agglutination or if there is a positive skin test or opsonocytaphagic reaction. Cross agglutination with *Br. abortus* and *B. proteus* OX-19 may cause some difficulty. In 2 of our fatal necropsied cases the agglutination tests were of no value because the patients died before the tests became positive.

Huddleson's phagocytic test has been applied to the diagnosis of tularemia by several different groups of investigators. This test has the disadvantage of not appearing until the second week as does the agglutination test and is not useful for early diagnosis. Its one favorable factor is its use in those patients whose blood cross-agglutinates with the *Brucella* group. This test is considered most useful for verifying the co-existence of these 2 diseases or for excluding

<u>Tularemia</u>	<u>Tularemia Pneumonia</u>
Incubation 1-13 days	Hematogenous spread
Chills	Severe chills
Fever (102-104°)	Ascending temperature
Sweats	Severe cough
Headache	Small amount sputum
Malaise	Dyspnea
G-I symptoms	Cyanosis
Lasts 2-4 weeks	Signs of bronchitis
Cough is early	bronchopneumonia
and transient	massive consolidation
Chest involved in	abscess
90% of cases	Pleural effusion 15%

Fig. 4. An outline of the symptoms of tularemia and tularemia pneumonia.

one from the other. Opsonins, like agglutinins, persist for many years after recovery.

There are 2 main types of tularemic skin tests described by Lee Foshay—the antigen and antiserum. These tests become positive the first day of the disease and remain so during the life of the patient.

The antigen or bacterial suspension intradermal test reaction was described by Lee Foshay in 1932. The test is performed by injecting about 0.05 c.c. of the prepared bacterial suspension intradermally creating a wheal 5 mm. in diameter. A positive reaction has the appearance of a positive tuberculin test and is read 48 hours after injection. No false positive or delayed reactions have been observed. The reaction is usually quite marked with local tenderness and tends to persist for several weeks. This test appears to be specific and diagnostic early in the disease in the majority of cases. Lee Foshay, testing 108 patients during the first 6 days of the disease, obtained positive reactions in all but 8 cases on the first test. Repetition of the tests at 48-hour intervals resulted in positive skin tests in all but one of the 8 cases before agglutinins appeared. Patients in the dying stage do not usually react to the test. Few normal individuals react slightly to this test, but the skin reaction usually is of a fleeting nature, fading after 36 to 48 hours, and does not tend to persist. This special antigen is safer than a highly diluted suspension made from formaldehyde-killed organisms because the latter is capable of producing necrotizing focal reactions at the site of injection and also marked constitutional symptoms. This skin test is ideal from a diagnostic standpoint, but the antigen is not commercially available at the present time.

The antiserum skin test of Lee Foshay is of the same high accuracy as the antigen test and the material is commercially available. The test must be controlled each time with equally diluted, strictly normal serum of the same animal species; otherwise it is not possible to differentiate the bacterial-specific reaction from the serum protein-specific response. The test is performed by injecting 0.04 c.c. of a 1:10 dilution of the immune serum intradermally at one site and the same amount of diluted normal serum at another site. A positive reaction consists of 2 phases, an areola of erythema and then an enlargement of the central wheal to several times its original size; there must be a complete absence of reaction at the control site. The test is read in 15 minutes. The reaction is extremely delicate and separate syringes must be used for each in-

jection to prevent contamination. Goat serum is preferable to horse serum because fewer individuals are sensitive to the former. Lee Foshay believes this test to be as accurate as the antigen skin test, but recently William Friedewald and George A. Hunt have raised some doubt about this point. Further investigation is probably necessary to clear this matter.

The diagnosis of tularemic pneumonia is essentially the recognition of tularemic infection plus the presence of pulmonary signs and symptoms as outlined above. Roentgen studies of the chest are essential in every tularemic infection.

Treatment

The treatment of tularemic pneumonia like pneumococcic pneumonia can be divided into symptomatic and specific phases. There is no need to comment on the former because it is identical with that of pneumococcic pneumonia. The specific treatment of tularemia with Foshay's antiserum has aroused a great deal of discussion and controversy since its introduction in 1932. This drug has not yet been accepted by the Council of Pharmacy and Chemistry for inclusion in the N. N. R., and one recent authoritative publication notes that "there have not been enough cases treated for comparison" and another states that "there is no treatment of value." However, Foshay recently reported 600 antiserum-treated cases with a control group of 480. In the treated group the duration of fever was not affected (26.4 days), but the average disability was reduced one-half to 2.8 months and the period of adenopathy was similarly reduced to 2.4 months. There was prompt amelioration of intoxication with the use of the serum. There was also a reduction of the mortality rate in the treated group; the gross rate was 3.8 per cent compared to 6 per cent in the controls. Eliminating the deaths from cardiovascular disease and those individuals who were moribund when the serum was given, the corrected mortality dropped to 1 per cent.

As there are serum reactions in 51 per cent of the cases (severe in 16 per cent), we hesitate to use this drug in tularemia that is noncomplicated by pneumonia or septicemia, but as the mortality rate rises to 30 per cent or more with these conditions, I believe that its use is then justified. The dosage recommended by Foshay in severe cases of pneumonia is 30 c.c. intravenously, which may be repeated daily if necessary. The antiserum is most effective the first 9 days of the disease, but has some effect up to 9 months.

The use of human specific immune serum has proved of no value and likewise the sulfonamides

have no beneficial effect in spite of an occasional case report to the contrary.

Prevention

To prevent this form of pneumonia, efforts must be made to eliminate human tularemia. It is the manifest duty of the medical profession to acquaint the public with this growing hazard in small game hunting by newspaper and radio releases. This service should be done each November when the hunting season begins. It is our belief that the incidence of tularemia was materially reduced in our community last year by these simple public health measures of the York County Medical Society.

Everyone who handles the rabbit carcass should wear rubber gloves until the meat has been sterilized by cooking. The gloves should be thoroughly washed with soap and water before removal; boiling for 10 minutes insures sterilization. One of our 1939 fatal cases was a housewife whose husband wore rubber gloves to eviscerate the rabbits but she sectioned the carcasses and cleaned the gloves unprotected. It should be remembered that the organism can penetrate the unbroken skin with great rapidity. The fact that the hunter describes the rabbits as healthy, active, and free from gross disease is no protection against tularemia. Invariably, in our series, the patient was sure that the rabbits he shot and cleaned were not infected.

Freezing the rabbit in commercial lockers does not destroy the *Bact. tularensis*, as it withstands a temperature of 14° below zero for 2 years. Thorough cooking alone will sterilize the infected tissues.

Summary

1. Tularemic pneumonia is an integral part of the tularemic infection.
2. Pneumonia occurs in 18 per cent of the cases.
3. The incidence of tularemia is increasing rapidly in Pennsylvania.
4. Symptoms and methods of early recognition of the disease have been reviewed.
5. Public health measures should be instituted by the profession to acquaint the public with this growing hazard.

I am indebted to Lee Foshay, Cincinnati, for permission to use 2 of his tables in this paper.

ABSTRACT OF DISCUSSION

HOBART A. REIMANN (Philadelphia): The point Dr. Thomas brought out was that tularemic pneumonia should not be considered as an isolated symptom, but as a part of the disease, which it is. This brings to mind another important point, that is, the tendency these days to treat every case of pneumonia, or at least patients who have a few rales in the lung and fever, with sulfonamide compounds. If we do that, we will make a lot of mistakes and cause many unnecessary unpleasant symptoms in people. It stands to reason that in every case we should attempt to discover what the etiologic agent is.

We seldom realize that tularemia is very much like bubonic plague. It is rather appalling to think of that because of the high mortality rate of a plague, but just the same the diseases are very similar. The bacteria are closely related. Both diseases can be classified into the bubonic and pneumonic forms.

In the case of tularemia with pneumonia, we can easily make the mistake of considering the pneumonia as a separate disease instead of a part of the disease complex.

The only other point I have to add to this interesting paper is in relation to the notion which many have that tularemia is spreading in Pennsylvania. I have never subscribed to that idea because I do not think that it is actually spreading. We can easily conceive, of course, that if we received a shipment of rabbits from an endemic center where the disease is prevalent, as in certain middle-western states, that there might be a localized outbreak.

Wherever there are rodents and ticks, there will be found tularemia, because the rodent is the natural host of the disease. The ticks serve as vectors to transport the disease from one animal to another, and occasionally to man, in addition to the way that Dr. Thomas mentioned, that of contracting the disease by skinning infected rabbits.

Tularemia has been found in a greater variety of game birds and animals, chiefly rodents, than any other infectious disease; so here again it is only reasonable to assume that the disease has always been prevalent in Pennsylvania, or at least present in Pennsylvania, and we have missed it because we have not had it in mind.

We could use the same words in the discussion of the disease called Rocky Mountain spotted fever, which has been claimed to be spreading. Simply because we recognize these diseases now is no reason to assume that they were not here before.

Tularemia, plague, Rocky Mountain spotted fever, and other infections are natural diseases of rodents and wherever rodents are found and wherever insects are found, and wherever the disease has the opportunity to come into contact with these carriers, the disease is bound to be present.

The Basal Metabolic Rate in Various Diseases

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KNOWLEDGE of correctly interpreting the basal metabolic rate in the various diseases is of significant value. The general practitioner's attention has repeatedly been called to the importance of a good differential diagnosis. He has come to depend more and more on his good judgment, and gradually is taking the matter into his own hands, and out of the realm of the specialist.

In the April, 1939, issue of THE PENNSYLVANIA MEDICAL JOURNAL the author, in an article, called attention to the fact that a good history, a thorough physical examination, and the experience of the physician are of more value in diagnosis than the use of certain machines. It was also pointed out that the basal metabolic rate depended on various factors, that a high rate did not necessarily mean thyroid involvement, nor did a low rate exclude the possibility of advanced thyroid disease.

In the interpretation of the basal metabolic rate certain problems frequently give rise to doubt and puzzlement. Too often, following a particular basal test, a vain attempt is made to recall the variations of the rates in various diseases, or one tries to remember what conditions are most apt to give rates within the limits of the particular case in question. Such an acute memory is outside of the scope of any single individual. The importance of a readily available, tabulated list summarizing the limits of variation of the basal metabolic rates in the various diseases is obvious.

In Table I are listed those conditions with which the practitioner most often comes in contact and sometimes finds difficult to differentiate from hypothyroidism or hyperthyroidism, especially so when there is slight enlargement of the thyroid. Table II is of more interest to the psychiatrist and summarizes the limits of variations of the basal metabolic rates in the psychoses. These 2 tables may easily be cut out, pasted on a cardboard, and put aside for ready reference.

In interpreting the tabulated lists, certain conditions need further explanation. It is well to bear the following in mind:

TABLE I
THE BASAL METABOLIC RATE IN DISEASE
Showing Limits of Variations

Normal limits	—12 to + 12
Starvation	—20 to — 30
Leukemia	+20 to +120
Menstruation	—15 to + 15
Pregnancy	
First 6 months	—10 to + 20
Last 3 months	+25 to + 45
One day after delivery	+20 to + 40
Two days after delivery	+10 to + 30
One week after delivery	—10 to + 10
Twins	
First 6 months	+20 to + 35
Last 3 months	+40 to + 55
One day after delivery	+35 to + 40
Two days after delivery	+20 to + 35
One week after delivery	—15 to + 10
Death of fetus	Drops to normal
Tuberculosis	
Incipient	
$\frac{1}{2}$ of cases	—16 to — 35
$\frac{1}{3}$ of cases	—15 to + 10
Advanced	
$\frac{1}{2}$ of cases	+20 to + 35
$\frac{1}{4}$ of cases	— 5 to + 20
$\frac{1}{4}$ of cases	—15 to + 10
Liver dysfunction	—10 to + 10
Obesity	—20 to + 20
Pernicious anemia	—45 to + 20
Cardiorenal disease	—15 to + 15
Essential hypertension	—15 to + 20
Nephritis	
With edema	— 5 to + 30
Without edema	$\pm$ 0 to + 40
Myxedema	—20 to — 60
Exophthalmic goiter	
Very mild	+15 to + 35
Mild	+25 to + 45
Severe	+45 to + 80
Very severe	80 and over

1. In the tables, the normal limits of the basal metabolic rate are given as ranging from minus 12 to plus 12. Some authorities think this to be minus 15 to plus 15. With honest effort and good technic, and the elimination of possible leaks in the type of machine used, the former figures are more accurate.

2. In leukemia the basal rate is apt to be very high, often higher than that of a severe toxic

TABLE II

THE BASAL METABOLIC RATE IN THE PSYCHOSES

Showing Limits of Variations

Manic depressive: depressed	-10 to +10
Manic depressive: manic	- 7 to +10
Psychoses with somatic disease	-15 to +20
Dementia praecox	
Simple	-10 to + 6
Hebephrenic	-12 to +12
Catatonic	- 5 to +10
Paranoid	- 4 to + 8
Epileptic psychoses	- 8 to + 8
Alcoholic psychoses	-10 to +10
Paresis	-15 to +25
Psychoneuroses	- 6 to + 9
Paranoia and paranoid condition	- 9 to + 7
Drug addiction without psychosis	- 1 to + 6
Psychoses with mental deficiency	-18 to + 9
Psychoses with psychopathic personality..	- 4 to + 4
Sydenham's chorea	- 2 to +10
Paralysis agitans (Parkinson's)	-12 to + 8

goiter. J. H. Means, of Boston, has repeatedly pointed this out.

3. In pregnancy the basal rate is of great value. Frequently death of the fetus occurs, yet all clinical signs of such a death may be entirely absent. The physician finds himself in a difficult position. Sometimes it is important to institute prompt treatment. If a basal rate is taken immediately, the situation at once becomes evident. If death has occurred, the basal metabolic rate drops to normal.

4. It is important to note the limits of variations of the basal rates in tuberculosis. Four-fifths of incipient tuberculosis cases show rates varying from minus 16 to minus 35. One-half of the advanced cases show rates ranging from plus 20 to plus 35.

5. There is nothing of importance as far as the basal rates are concerned in the psychoses. The rates are practically within normal limits. Though the basal metabolic rate in myxedema is rather low, and sometimes myxedema may be the etiologic factor in a psychosis, the author has seen one case of so-called myxedema. At the time of the examination this patient was on thy-

roid extract and her basal metabolic rate was within normal limits.

6. An important fact to bear in mind is that if a basal metabolic rate is to be of any value it must be taken as early as possible after seeing the patient, so that any doubt which exists in the physician's mind will be cleared, and a diagnosis made, and prompt treatment instituted. It is precisely at this period that a consultation, which is most likely if the matter is delayed, never does take place with the specialist.

A lamentable fact in medicine is that too often we carelessly overlook the mild hypothyroid condition and only concern ourselves with the too obvious hyperthyroid. In health some individuals often show a persistent rate of plus 12 to plus 15, within normal limits. Something occurs and they consult a physician. The basal metabolism rate is taken and it is found to be perhaps minus 12. This is at once interpreted as normal, yet, in actuality, the rate has dropped from plus 12 or plus 15 to minus 12, a difference of 24 points. How obvious is the fact that here is a condition offering the golden opportunity for a brilliant cure!

It is commonly stated that the symptoms of syphilis may resemble those of any other type of disease. We can stretch the point further and declare that hyperthyroidism may resemble any other type of disease. In conjunction with a good history and a thorough physical examination, the basal metabolic test, more than any other test, if done accurately, offers the best method of differentiating a true case of hyperthyroidism from other diseases.

Summary

Two tables, enumerating the limits of variations of the basal metabolic rates in the various diseases, are offered in the hope that they will serve as guides to more efficient interpretation of the basal rate, therapy, and correlation with clinical signs and symptoms, and call attention to the futility of hasty readiness in turning to surgery as the only resort.



Primary Acute Pneumococcic Peritonitis

Report of Case Treated with Sulfapyridine

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PRIMARY acute pneumococcic peritonitis is a comparatively rare disease even in this the Pittsburgh area, where pneumococcic infections especially of the lungs are so prevalent. It is divided into 2 types, the diffuse and the localized. The diffuse involvement of the peritoneum has a much more serious outlook than the latter, which is less toxic and develops less rapidly. The diffuse type occasionally subsides without localization, but often will terminate as a localized process. This is differentiated from the true acute localized type which never assumes diffuse characteristics but infects only a limited area of peritoneum, from the onset, usually in the pelvis.

Secondary acute pneumococcic peritonitis is associated with a concomitant pneumococcic infection elsewhere, usually in the lungs, and will not be discussed here. The mortality rate of the primary type varies in reports from 65 to 100 per cent. B. Lipshutz and H. Lowenburg, in a group of 13 cases, had a mortality of 100 per cent. R. C. Johnston also reported 5 cases in 1936, 2 primary and 3 secondary, with a 100 per cent mortality. In reviewing the literature, the general consensus of opinion up to the present time sets the mortality rate in children with a primary acute type of the disease at between 90 and 100 per cent.

Treatment in the past was primarily surgical drainage with restorative means such as maintaining the fluid balance and transfusions. It was not until the advent of the antipneumococcic serum that any therapy was very successful. Since that time there have been a few cases of primary pneumococcic peritonitis treated early with the antipneumococcic serum with dramatic recovery. M. M. Glazier, B. I. Goldberg, and A. A. Weinstein reported such a case in 1936, the typing having been obtained from a positive blood culture after which the specific antipneumococcic serum was administered. The temperature descended to normal about 4 days following the serum therapy. H. A. Lowe describes 2 cases in adults with recoveries. Also, A. E.

Moore, W. B. Cooksey, and A. E. Thomas have written on the use of specific serum therapy.

W. W. Sager and W. Raffel report a case treated with prontosil in which the diagnosis was established at operation. This patient recovered and the authors state that their report does not prove the efficacy of the use of sulfanilamide in the treatment of pneumococcic peritonitis, but strongly suggests the probability of one or more strains of this organism being susceptible to its action when they occur in the peritoneal cavity producing peritonitis. Barnett et al. have described 3 cases of the acute disease treated with sulfapyridine with recovery. Two of these were secondary in type following nephrosis, in which cases it is so common and so often fatal. The other case was of the primary acute type and recovered but was complicated by abscess formation in the pelvis. It was suggested that, if definite improvement does not occur in 24 to 36 hours, specific serum therapy should be instituted.

The following is the history of a patient who fell ill on July 23, and whose response within 24 hours of the administration of sulfapyridine was spectacular and very suggestive as to the efficacy of the drug in this disease:

Case Report

N. J. P., white female, age 7, was in good health and without complaint until 3 p.m. the afternoon of July 23, 1939, when she complained of being tired and of not feeling well. At 5 p.m. she began to have generalized cramp-like abdominal pain. At 7 p.m. her temperature was 102 F. by mouth and the pain had increased. At 11 p.m. the temperature was 104.4 F. by mouth and she had vomited several times. Her bowels had not moved for 24 hours and an enema was nonproductive. The patient at this time was pale and toxic, restless, and complaining of abdominal pain. The abdomen was slightly rigid but not tender. Peristalsis was reduced. A tentative diagnosis of acute gastro-enteritis was made.

Twelve hours later on July 24, about 20 hours from the onset of the disease, the patient was seen again. At this time she was lying quietly in bed, the temperature was 104.6 F. by mouth, and complaints of abdominal pain had changed to pain on motion of any sort with extreme abdominal tenderness and great discomfort on

urination. The patient's bowels had not moved since last seen and she had vomited once. Examination at this time revealed dehydration becoming apparent. Respiratory movements were purely thoracic. The abdomen was very rigid and tender throughout, but more marked in the lower quadrants. Rectal examination revealed generalized tenderness of the pelvic peritoneum.

Because of the appearance of a generalized peritonitis, the patient was removed to the hospital where the following history and examination were obtained.

Past medical history: Measles, whooping cough, mumps, and chickenpox were recovered from without any complications. Two years ago following tonsillectomy she suffered a severe postoperative hemorrhage which required a transfusion.

Family history: Father and mother living and well. One brother living and well. The day previous to the onset of the patient's illness, her brother had a gastrointestinal upset, characterized by several loose stools over a 24-hour period. There is no history of diabetes, cancer, tuberculosis, or hemorrhagic tendencies in the immediate family.

Physical findings: The patient is a pale, feverish, extremely ill, white female of about 7 years. Her lips and tongue are dry. Temperature by rectum is 104.2 F., pulse 152, and respirations 30. Normal weight 52 pounds.

Head: Ears—Drums revealed no abnormalities.

Eyes—The pupils react equally to light and accommodation. Ocular movements in good balance.

Nose—No discharge. Normal in appearance.

Mouth—Lips are dry and parched. The tongue is dry and coated. No dental sepsis. Throat is clear.

Chest: Respiratory excursion thoracic in type but equal bilaterally. Vocal and tactile fremitus normal throughout both lungs. Breath sounds and percussion note revealed no abnormality. Heart rate 152. No murmurs and no enlargement.

Abdomen: Extremely rigid and tender throughout, more marked in the lower abdomen. Rebound tenderness present to a great degree. Hyperextension of leg exaggerates lower abdominal pain. Peristalsis absent.

Genito-urinary: Normal female.

Impression: Acute appendicitis with generalized peritonitis.

Laboratory examination at this time was as follows: Urine negative, blood hemoglobin 79 per cent, red blood cells 4,280,000, white blood cells 20,900, polymorphonuclears 99 per cent, and lymphocytes 1 per cent.

Vaginal smear revealed a few micro-organisms, no pus cells, and no gram-negative diplococci.

Diagnosis: Acute appendicitis with generalized peritonitis.

At 2:30 p.m., July 24, the patient was removed to the operating room, 24 hours from the onset of her illness. Under gas-ether anesthesia the abdomen was opened through a McBurney incision and upon incising the peritoneum a grayish pus exuded into the wound. The entire peritoneum, parietal and visceral, was injected. The surface of the entire intestine was dark red in appearance and there were occasional small areas covered with a heavy yellowish purulent exudate. The appendix was of normal consistency, free of adhesions, and had the same general appearance as the rest of the intestine. The tubes and ovaries were normal to palpation. The distal end of the ileum was examined for

Meckel's diverticulum, but none was found. Mesenteric nodes were found to be enlarged to about the size of a navy bean. The appendix was removed in the usual manner and the abdomen closed without drainage.

The microscopic examination of the pus and peritoneal exudate revealed a pneumococcus. The temperature rose to 106.6 F. postoperatively and dropped to 100 less than 24 hours after operation, at which time it leveled off with one or two small excursions of a degree to a normal reading. The pulse in the 24-hour period postoperatively held at about 160, at times fading to the point of being imperceptible. During this period the patient was desperately ill. The respirations were grunting in character, the face was pinched, and the eyes half open. At times she roused to restless delirium, but generally had the appearance of being unconscious. When the pulse weakened to imperceptibility, caffeine sodium benzoate seemed to produce a good response.

Treatment: Sulfapyridine was given immediately after she reacted from the anesthesia, but this was lost by vomiting. Ten c.c. of 2½ per cent prontosil was administered intramuscularly as a substitution until vomiting would cease. Fortunately, beginning 6 hours after operation, in the next 24-hour period, the patient was able to retain 60 grains of sulfapyridine. The initial dose was 15 grains.

Fluids: 1700 c.c. of one-half strength normal saline solution with 2½ per cent glucose was administered subcutaneously and 700 c.c. of tap water by rectum daily. At the beginning of the second day 180 c.c. of whole blood was given by the indirect method of transfusion. This was followed by a chill and convulsion which lasted about 10 minutes. At this point the patient became cyanotic, the pulse was irregular and of very poor quality, and the rectal temperature was 106.2 F.

Twenty hours after the first dose of sulfapyridine the temperature dropped to 99.4 F. by rectum and the respirations from 32 to 16. The cardiovascular mechanism did not respond so quickly and the pulse remained feeble and rapid. The patient was then placed in an oxygen tent and in 24 hours the pulse had dropped to 120. The temperature, with the exception of a few small peaks, remained at about a normal level until she was discharged from the hospital on the tenth day. The second and third postoperative days were marked by vomiting. This was combated by nembutal by rectum in doses of a grain and a half. Peristalsis was heard first at the end of the second postoperative day and on the third postoperative day the patient expelled flatus and fecal material. Distention was never a major problem and seemingly was relieved by the rectal tube and the occasional expulsion of the proctoclysis of tap water which was accompanied by fecal material.

The blood count on the third day was as follows: Blood hemoglobin 66 per cent, red blood cells 3,500,000, white blood cells 12,300, polymorphonuclears 90 per cent, small lymphocytes 9 per cent, no monocytes, and myelocytes 1 per cent.

The blood count on the fourth day was as follows: White blood cells 9150, polymorphonuclears 66 per cent, small lymphocytes 31 per cent, monocytes 1 per cent, and myelocytes 2 per cent.

Following the fifth postoperative day, the patient improved so rapidly that she was able to sit up, and on the tenth day was discharged from the hospital. The wound healed, primarily being complicated only by a number of tiny stitch abscesses which closed a few days following the removal of the sutures. Three weeks

from the onset of her illness the patient was beginning to walk, had a good appetite, and was gaining rapidly in weight and strength.

I am indebted to Claude A. Robb, M.D., of Butler, who performed the surgery in this case and whose advice was indispensable.

Comment

There are 3 theories as to the mode of entrance to the peritoneum of the pneumococci given by nearly all authors: (1) through the gastro-intestinal tract; (2) by way of the blood stream; (3) from the vagina to the uterus to the fallopian tubes to the pelvic peritoneum. The evidence in favor of the transdiaphragmatic lymphatic route is meager. The direction of the lymphatic drainage in this region has been shown to be upwards. In spite of numerous articles on the experimental production of pneumococcal peritonitis by any of the 3 methods mentioned, Hörine in 1935 points to the female genital tract as the entrance of the infection by the striking sex distribution of the disease. He states that 75 per cent of all cases occur in females under 10 years and are usually the primary type, while the other 25 per cent occur in boys and are usually of the secondary type. J. E. McCartney and J. Fraser substantiate this by their study of 56 cases; 44 occurred in girls, the majority primary, and only 12 in boys, all of which were of the secondary type.

Diagnosis

The primary acute type of pneumococcal peritonitis occurs most frequently in female children between the ages of 2 and 10. The disease is characterized by an acute onset of severe abdominal pain and high fever, 104 to 106 F. Vomiting is a frequent occurrence and may be the initial symptom. Diarrhea may occur within 12 to 24 hours. Rigidity of the abdomen with generalized tenderness and all the signs of an acute fulminating peritonitis appear. In the majority of case reports a diagnosis of acute appendicitis with peritonitis was made preoperatively.

Acute streptococcal peritonitis or that which follows appendicitis or any ruptured viscus are to be differentiated. Abdominal paracentesis or laparotomy are the only definite immediate methods of differentiation, the latter being most preferable, because it is a simple nonshock-producing procedure. Blood culture has been suggested, but involves a delay of 12 to 24 hours and then may not be positive. Lipshutz and Lowenburg state that 90 per cent give a recent history of an upper respiratory infection in the pneumococcal type. A number of authors give

the extremely high polymorphonuclear count 95 to 99 as an important differential finding in contrast to the lower polymorphonuclear count of an acute appendicitis with peritoneal involvement.

As a general rule the patient with an acute primary pneumococcal peritonitis is so desperately ill and so prostrated by the disease and produces the signs of an acute fulminating peritonitis so rapidly with a very high temperature (104 to 106 by rectum) that it immediately turns thoughts of an acute peritonitis from a ruptured appendix to one side.

Treatment since the advent of sulfapyridine and its derivatives, once the diagnosis is established definitely; namely, by abdominal paracentesis or laparotomy with direct smear examination of the pus, includes the administration of this drug with maintenance of fluid balance and possibly transfusion. The supplementary use of type-specific serum is optional, often depending upon whether or not favorable response occurs after a 24-hour period of drug therapy.

In the past few years, in any generalized peritonitis, surgical drainage is being used less and less. It is being realized that a complex cavity such as the peritoneal cavity cannot be adequately drained through any one or two incisions. Drainage only following localization at a later date is now advised as the rational method of surgical treatment. A. E. Thomas believes the drainage of an early turbid fluid in pneumococcal peritonitis is as positively harmful as a similar early drainage of a pneumococcal empyema. So the question, when faced with an acute generalized peritonitis, is not so much shall we operate and drain as a therapeutic measure, but shall we open the peritoneal cavity by incision or paracentesis to make an accurate bacteriologic diagnosis in order that the proper chemotherapy or type-specific serotherapy may be adopted.

Summary

1. A case of primary acute pneumococcal peritonitis has been reported with a dramatic recovery following the use of sulfapyridine.

2. A review of the literature reveals a few reports indicating a probable value of sulfanilamide and its derivative sulfapyridine in the treatment of this disease.

3. Type-specific antipneumococcal serum is apparently of value and may be combined with sulfapyridine as an auxiliary form of treatment.

4. Surgery should be used as a diagnostic but not a therapeutic procedure. Drainage of the peritoneal cavity before localization of the infection occurs is a harmful procedure.

A Comparison of Therapeutic Agents in the Treatment of Scarlet Fever

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THE introduction of antitoxin in the treatment of scarlet fever has given rise to some controversy as to its value in contrast to other agents. Most physicians who have had a wide experience in this field agree that antitoxin shortens the febrile period, causes the rash to disappear sooner, and modifies desquamation. However, the value of antitoxin on the incidence of complications finds these physicians divided in their opinions. There are others who, although concurring in these views, nevertheless believe that the high incidence and the discomfort of serum disease is of such gravity that they offset any beneficial results. It has also been suggested that the good effects obtained by the use of antitoxin may be due to a nonspecific foreign protein response rather than to any specificity which the antitoxin possesses.

The use of convalescent serum in the treatment of scarlet fever is still advocated by such authorities as A. L. Hoyne, S. O. Levinson, and W. Thalhimier, C. M. Hyland and L. R. Anderson, and others. However, it seems to us that this agent has lost a great deal of its popularity during the past 10 years. The advocates of convalescent serum state that it will do everything that antitoxin does without the ill effects of serum disease.

With these controversial questions in mind, we tried to study the effect of these agents on 1780 scarlet fever patients admitted to the Philadelphia Hospital for Contagious Diseases in the fall of 1932 and the winter and spring of 1933.

Upon admission to the hospital each patient was seen by the authors or an assistant and placed in one of 4 groups. Each patient was classified as mild, moderate, or severe in accordance with the previous method used by the senior author and J. E. Bowman.

Group I.—This was the control group, and consisted of 519 patients, 164 of whom were mildly and 355 moderately ill. Severely ill patients were excluded from this group, the ma-

jority of them being placed in Group II. These patients received symptomatic treatment in addition to the routine forcing of fluids, catharsis, and alkalization.

Group II.—This is the scarlet fever antitoxin treated group. It contained 581 patients, of whom 12 were mild, 251 moderate, and 318 severe cases. The dose of antitoxin given was 3000 to 10,000 units (150,000-500,000 neutralizing units), depending on the severity of the disease. The antitoxin used was of a commercial type, which contained 500 units (25,000 neutralizing units) per c.c.

TABLE I
DURATION OF FEVER

	<i>Group I</i>		<i>Group II</i>		<i>Group III</i>		<i>Group IV</i>	
	<i>Cases</i>	<i>Days</i>	<i>Cases</i>	<i>Days</i>	<i>Cases</i>	<i>Days</i>	<i>Cases</i>	<i>Days</i>
Mild	164	5.95	12	5.26	53	5.70	20	6.60
Moderate ..	355	6.61	251	5.35	321	6.13	105	7.15
Severe	00	0.00	318	5.60	118	6.10	63	7.16
Average ...	519	6.40	581	5.49	492	6.06	188	7.10

It was also decided to study the occurrence of serum disease and the effect, if any, that ephedrine and calcium would have upon reducing this incidence. Therefore, 167 patients of this group were given ephedrine sulfate in doses of gr. $\frac{1}{4}$ to gr. $\frac{1}{3}$ once daily for 7 days; 162 patients received ephedrine plus calcium lactate, gr. II to gr. V, once daily for 7 days.

Group III.—This group of 492 patients received foreign protein therapy. For this purpose a commercial diphtheria antitoxin containing 1500 units per c.c. was used. The dose given was 5000 to 10,000 units. These patients were divided into 53 mild, 321 moderate, and 118 severe cases. The effect of ephedrine and ephedrine plus calcium on serum disease was also studied; 157 received ephedrine and 170 ephedrine and calcium lactate, the dose being the same as in Group II.

Group IV.—This group received convalescent scarlet fever serum obtained from adult patients in at least the twenty-first day of disease. In

TABLE II
DURATION OF FEVER AND PERCENTAGE OF COMPLICATIONS

	Group I			Group II			Group III			Group IV		
	Cases	Days	Complications	Cases	Days	Complications	Cases	Days	Complications	Cases	Days	Complications
Mild	164	5.95	10.37%	12	5.26	0.00	53	5.70	22.64%	20	6.60	10.00%
Moderate ..	355	6.61	21.13%	251	5.35	17.53%	321	6.13	19.94%	105	7.15	18.10%
Severe	00	0.00	0.00	318	5.60	23.90%	118	6.10	27.12%	63	7.16	34.90%
Average	519	6.40	17.73%	581	5.49	20.65%	492	6.06	21.95%	188	7.10	23.94%

all, 188 patients were included, of whom 20 were mild, 105 moderate, and 63 severe cases. The dose of serum given was 30 c.c., 60 c.c., or 90 c.c., depending on the severity of the disease. As in Groups II and III, it was given by the intramuscular route. Its antitoxin titer was not determined.

Results: Effect on Fever

It will be seen from Table I that Group II (antitoxin) has the shortest febrile stage (5.49 days), and Group IV the longest (7.10 days), a difference of 1.61 days. In other words, the febrile stage was 39 hours longer in those receiving convalescent serum. Group III (foreign protein) averaged 0.57 day more fever, or about 14 hours, while the Group I patients (control), despite the fact that no severe cases were included in this group, had 0.9 day or more than 21 hours of fever. It must be noted that 84 per cent of the cases in Group II, 87 per cent of Groups III and IV, received treatment within 3 days of the onset of the disease. It is needless to say that the earlier antitoxin is given the more prompt and rapid should be the response.

Effect on Complications

It will be seen from Table II that the Group IV patients experienced the highest complication rate (23.94 per cent), while Group II patients showed a rate of 20.65 per cent. Group I, of course, shows the lowest rate, but it must be remembered that this did not include any severely ill patients, who usually have a higher incidence of complications.

If we study the rate for the severely ill patients in Groups II, III, and IV, we will note once again that the convalescent serum treated patients had the highest incidence—34.9 per cent in contrast to 27.12 per cent for foreign protein and 23.9 per cent for the scarlet fever antitoxin group.

Upon examination of the figures for the moderately ill patients, it will again be noted that Group II patients had the lowest complication rate (17.53 per cent) and the control group the highest (21.13 per cent).

Table III shows the incidence of each type of

complication. As expected, otitis media and adenitis lead the groups. The incidence of nephritis among the severely ill patients of Groups II, III, and IV shows the most striking rates of 1.89 per cent, 5.08 per cent, and 3.17 per cent respectively. This, we believe, is quite significant.

Serum Disease

Table IV shows the incidence of serum disease in Groups II and III, that is, 38.7 per cent and 28.02 per cent respectively. This difference is probably due to the larger volume of scarlet fever antitoxin given with each therapeutic dose. The use of drugs in the prevention of serum disease had no beneficial effect on the Group II patients; as a matter of fact, the incidence is higher in those receiving these drugs. In Group III there is a negligible response in those receiving ephedrine and calcium and a moderate response in those receiving ephedrine.

Discussion

In attempting to evaluate the results of this study, it is important to bear certain facts in mind.

First, the scarlet fever antitoxin used contained a minimum potency of 500 units (25,000 neutralizing units) per c.c., so that in the dosage used (3000 to 10,000 units) it was necessary to give 6 to 20 c.c. of this agent. Obviously, this volume of antitoxin contained large quantities of horse serum protein, which is responsible for the production of serum disease, and probably also produces a foreign protein response.

Second, the diphtheria antitoxin employed as a foreign protein agent, contained 1500 units per c.c. In the doses employed (5000 to 10,000 units) the required volume of 3.2 to 6.6 c.c. is about one-third the volume of antitoxin used in the treatment of Group II patients. This difference in volume was probably responsible for the lower incidence of serum disease in Group III patients. It must be admitted that this difference in volume would likewise tend to produce a milder foreign protein response in this group and, therefore, the comparison of results is difficult.

TABLE III
PERCENTAGE OF COMPLICATIONS IN EACH GROUP

	Group I		Group II			Group III			Group IV		
	Mild	Moderate	Mild	Moderate	Severe	Mild	Moderate	Severe	Mild	Moderate	Severe
Otitis media ..	1.89	6.76	0.00	7.17	9.75	7.55	6.54	9.24	5.00	6.67	12.70
Mastoiditis	0.00	0.56	0.00	0.00	3.46	0.00	0.62	1.69	0.00	0.00	3.17
Adenitis	4.28	8.45	0.00	4.78	9.75	15.09	8.41	8.47	5.00	9.52	9.52
Nephritis	0.00	0.28	0.00	0.39	1.89	0.00	0.93	5.08	0.00	0.00	3.17
Arthritis	0.61	0.00	0.00	0.80	1.94	0.00	0.00	0.00	0.00	0.95	1.59
Abscesses	1.22	0.28	0.00	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Peritonsillar abscess	0.61	0.56	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.95	1.59
Pneumonia	0.00	1.13	0.00	1.39	0.63	0.00	0.31	0.00	0.00	0.00	0.00
Miscellaneous ..	1.89	3.10	0.00	4.78	0.94	0.00	1.87	2.54	0.00	0.00	3.17
Total	10.37	21.13	0.00	17.53	23.90	22.64	19.94	27.12	10.00	18.10	34.90

Third, the convalescent serum used was of undetermined strength and, therefore, it is again impossible to make accurate comparisons between this group and that of Group II patients. However, P. S. Rhoads and B. M. Gasul have found that convalescent scarlet fever serum seldom contains more than 500 neutralizing units per c.c. If we accept this figure for the potency of our serum, then the dose of 30 to 90 c.c. given represents 15,000 to 45,000 neutralizing units. In comparing this to the antitoxin, we will find that 6 to 20 c.c. used represent 150,000 to 500,000 neutralizing units. In other words, to give the equivalent of 6000 units or 300,000 neutralizing units, which is the recognized therapeutic dose of scarlet fever antitoxin, it would be necessary to use 600 c.c. of convalescent serum. This, of course, is not practical and we believe is the reason why convalescent serum did not in our hands produce any beneficial results in combating either the toxemias or the incidence of complications. The most beneficial result observed from the use of this agent was the absence of any untoward reactions.

TABLE IV

	Group II (Scarlet Fever Antitoxin)			Group III (Diphtheria Antitoxin)		
	No. of Cases	Serum Disease	Percentage	No. of Cases	Serum Disease	Percentage
A	252	76	30.16%	165	52	31.52%
B *	167	75	44.91%	157	34	21.66%
C †	162	74	45.71%	170	52	30.59%
Total ...	581	225	38.70%	492	138	28.02%

* Receiving ephedrine.

† Receiving ephedrine and calcium.

There are many clinical experiences gained from the management of such a large group of patients that statistics cannot show. There is no doubt in our minds that scarlet fever antitoxin possesses definite specific antitoxic property as can be seen by the prompt drop in temperature, the reduction of the febrile stage, and the rapid fading of the rash in many of these patients. Its action on the incidence of complications, although more favorable than in Groups I, III, and IV, nevertheless is not strik-

ing except in the severely ill patients. It is difficult to say what part the large quantity of horse serum played on the incidence of complications—that it may play some part may be noted in the 38.7 per cent of patients developing serum disease. However, at this writing the senior author is using a scarlet fever antitoxin containing 6000 units per c.c., which has reduced serum disease from 36.3 per cent as previously reported by the senior author and J. E. Bowman to the low figure of 3.45 per cent.

That diphtheria antitoxin possesses no antitoxic value for scarlet fever patients is obvious. Whether it has any influence on the incidence of complications is hard to determine because of the difference in volume used in this group. However, there was no marked difference in the complication incidence of these patients (21.95 per cent) in comparison to Group II patients (20.65 per cent).

The incidence of serum disease and the failure of drugs to decrease this occurrence was not surprising. Recently, W. B. Sherman and M. Glidden reaffirmed the belief that patients with manifest symptoms of serum disease do not show a deficiency in blood calcium. There is, therefore, no need to expect that the giving of calcium will prevent the occurrence of this condition.

Conclusions

1. Scarlet fever antitoxin has definite antitoxic properties as noted in the reduction of temperature, duration of fever, and fading of rash.

2. Patients receiving scarlet fever antitoxin showed a lower complicating rate (20.65 per cent) than diphtheria antitoxin (21.95 per cent) or convalescent serum (23.94 per cent). This was more noticeable in the severe cases.

3. Convalescent serum in doses used had no effect on the reduction of fever or the duration of the febrile stage.

4. Serum disease was not affected by the use of ephedrine or ephedrine and calcium.

LAW AND LUNACY

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THERE are many grave responsibilities that fall to the lot of all of us. There are few more serious responsibilities, however, than those which call upon us to decide whether another man is *right or wrong* in what he thinks or what he does. A still greater responsibility is entailed from the assumed prerogative to decide whether a man is *responsible for his acts* in the doing of what we may interpret as right or wrong.

As an organized group of psychiatrists, our interest naturally leans in the direction of determining the responsibility of the individual for his act on the basis of his mental capacity. Continually changing legislation and continually changing legal procedure, with a great variety of judicial interpretation through the recent years, indicates that the subject is still far from understood and sadly requiring the close attention and assistance of scientific and legal minds for its solution. The questions of what is right and what is wrong, and who is responsible and who is not, have been subjects of discussion since the earliest days of man. These discussions tend to follow 3 main channels of thought: (1) legal and correctional; (2) philosophic and religious; (3) scientific and psychiatric. It may be interesting to outline briefly the development of the legal and correctional systems, their modification through philosophic and religious influences, and the more recent scientific and psychiatric efforts to solve these problems.

The legal and correctional approach to the problem extends back through the ages even to the beginning of time and to the experiences of Adam and Eve, when the first wrong was considered to be disobedience to a law dictated by a Superior Being. The decision as to the right and wrong of the committed act rested also with the Superior Being, and the correction on the basis of punishment was meted out by this same Being. All through the ages, as noted in the many historical recordings, this procedure was repeated again and again, varying only in the nature of the controlling Superior Being. As

life became more communal and more complicated, it was found necessary to appoint individuals as "Over-Lords" who were given the right, by common consent, to make decisions as to culpability and punishment. The punishment was largely in the direction of vengeance. This is the old story of "An eye for an eye and a tooth for a tooth." This trend continued even after the beginning of the Christian era, and until not long ago it was customary to punish in accordance with the crime, by inflicting a symbolic injury upon the criminal based on the nature of his act—the thief having his hands chopped off, the gossip his tongue split, and the eavesdropper his ears removed and so forth.

During the "Dark Ages" this method of punishment was carried out to an extreme degree so that when a woman was caught drowning her illegitimate child in boiling water, she was sentenced and likewise drowned in boiling water for her punishment.

That right was possession, based on strength, was also emphasized to a considerable degree during the Middle Ages. In a recent study of the French Romances, Riedel points out repeatedly that the determination of guilt was on the basis of combat, the loser always being considered the guilty one. This became so a matter of custom that "if the accused was unable to wage battle, he could appoint someone to represent him in arms, and if his representative won the combat, this would prove the accused innocent." This system was also used to settle civil disputes.

Sir Launcelot was asked to defend a widow whose former husband's nephew wished to deprive her of her dowry. Since the widow had said things in court which she could not retract, Launcelot could not act as her legal adviser, but he did help her by defeating the nephew in a judicial duel.

The knight Aglu Desvaus encountered some nuns whose abbey had been destroyed by another knight, who claimed the property on the ground that his grandfather had founded and endowed the abbey, and so impoverished the heirs. "Aglu

Presidential Address, read before the Philadelphia Psychiatric Society, Jan. 12, 1940.

defeated the knight in a judicial duel and established the legality of the nuns' ownership."

The Count of Poitiers had been led by the Duke of Normandy into believing that his wife had been unfaithful to him. When the deception was discovered, the Duke of Normandy was accused of treason and "through a judicial duel was proved guilty and so hanged and drawn."

Trial by Combat was at times varied by a Trial by Ordeal. In the cold water test, the accused, hands and feet bound with cord, was lowered by a rope into consecrated water. "If he sank, he was innocent; if he floated, he was guilty." The theory was that the pure element would not receive into its bosom the impure or sinful person. In another ordeal used at times, a suspected person would be required to carry a red-hot iron weighing 2 or 3 pounds over a distance of 3 to 9 paces. Sometimes he was also required to walk barefoot over 9 red-hot plow shares. Guilt or innocence was determined 3 days later when the wounds, bound and sealed at the time of the ordeal, were examined by the priest in charge. "Signs of healing showed innocence, but an aggravated condition proved guilt."

These older methods of guilt appraisal by means of the Over-Lord, or combat, or ordeal, eventually gave way to "trial by evaluation of recognized factors which may have occurred in relation to the crime." This led to the gradual development of the jury system. Procedures somewhat analogous to jury trial were developed in many lands by primitive peoples and went through many phases until eventually established on a more firm footing by the Normans after their conquest of England, when it became necessary for these conquerors, in ruling a new land, to have accurate information upon which to base their controlling laws. The system was called that of Recognition, "through the obtaining of facts from neighbors or witnesses and the evidence submitted under oath before authoritative officers appointed to conduct inquest or assize, and to question the 'Recognizers' or 'Witnesses.'" This method was first used for the obtaining of information for the Crown, then for settling property rights, and gradually became used for the settling of feuds between individuals or groups of individuals, and later for trying criminals. During the reign of Henry II, in the twelfth century, there was enacted a law "permitting a defendant to decline trial by combat, or ordeal, and choose trial by assize or inquest." In the earliest effort in this direction, 4 knights were appointed, who in turn elected 12 knights who they thought were cognizant of the

affairs under dispute, and these 12 made an effort to reach a unanimous decision.

If they failed to agree, 12 new knights were selected and the process repeated until 12 men concurred in a decision. There was no effort to obtain evidence and the decision was rendered entirely on the basis of previous knowledge that the knights may have held in relation to the subject under trial.

Two or 3 generations later the Anglo-Saxons established a criminal jury of 12 who were to determine the absolute guilt or innocence of those accused on the basis of evidence submitted, rather than on their own prior knowledge of the circumstances. It gradually became the custom to select the 12 men from those near the seat of the crime and, as the system developed, various forms of offenses were added to the jurisdiction of an inquiry. An effort was made to obtain for a jury, "knights, and if they were not available, free and lawful men who should be the neighbors or otherwise the equal of the prisoner."

Many modifications have taken place in the jury system through the centuries, and where they were originally considered the voice of local opinion on questions submitted before them, they became judges of fact upon the evidence laid before them, and accepted authority to determine guilt and penalty. In France, in the eighteenth century, proof by witness fell into disrepute because the parties interested were permitted to choose their own witnesses and were allowed to provoke the opposing witness to a duel and settle the dispute by combat, thus nullifying the action of the jury and the court.

The jury system was in force in the American colonies as a part of the English law of the period, and was continued with most of the other laws when the United States was organized. It is now generally accepted that it is the duty of the jury in criminal cases to receive the laws from the court, to apply them as laid down by the court, subject to the condition that in giving a general verdict, the jury may incidentally determine both law and fact, so that a jury trial often becomes a trial of evidence rather than a trial of the accused. Even today the jury accepts or rejects evidence and may discard testimony by experts in favor of testimony of lay witnesses.

In the State of Michigan in May, 1938, a jury accepted the opinion of lay witnesses that a man who had been injured in line of duty and later became insane "showed no signs of insanity prior to the injury," although the testimony of psychiatrists and other physicians

showed that the man "had had arteriosclerosis, hypertension, and deteriorated intellect and thinking ability prior to the injury."

In Colorado during the past year an inmate of an institution for feeble-minded, mentally defective, and epileptic persons pleaded "not guilty to murder by reason of insanity." A commission of 3 able and qualified alienists reported that "the prisoner was mentally defective at the time of the alleged commission of the crime, and that he was incapable of distinguishing between right and wrong and was unable to perform any action with a criminal intent." Lay testimony was submitted to show that "the prisoner was sane at the time that the homicide was committed. The jury accepted the lay evidence as opposed to the psychiatric evidence and adjudged the prisoner sane, convicted him of first-degree murder, and imposed the death penalty. The Superior Court considered the testimony of the alienists not conclusive and stated that "it was for the jury to decide, on the basis of evidence submitted, whether the man was sane or insane at the time of the commission of the offense" and so sustained the verdict of the lower court. Such experiences would seem to lend considerable weight to the suggestion of Dr. Glueck that "the question of the defendant's mental condition should be taken away from the jury entirely, and that after examination an administrative commission should be employed to determine appropriate socio-penal treatment adequate to the individual."

Probably during the thirteenth century, as Dr. James Walsh has indicated, the philosophic-religious discussions about right and wrong reached their zenith. St. Thomas Aquinas was a leader in these debates and some of the dogmas which he laid down at that time still hold good and are respected throughout the world. These scholastic discussions centered about 3 chief methods to be used in deciding as to the right or wrong of an act. The first was the theory that "if you have more reasons for thinking you are doing wrong before you act, then what you are doing is right." This precept was considered too loose to be satisfactory and was rejected and another one was propounded; namely, "that you must have better than equal probabilities for right to justify the act contemplated, that it may be right rather than wrong." This was upheld by the Augustinians in the discussions as a useful concept. The third postulate, that of St. Thomas Aquinas, was that "there must be at least one very good reason for the carrying out of an act, and if this one reason is of sufficiently good quality, it may outweigh even 10 or more wrong reasons." Thus, St. Thomas clarified the

understanding of right from wrong in action and assumed frequently that it was right to do a minor wrong, if by so doing the action completed a greater right. This philosophic-religious concept has carried considerable influence through religious and legal channels, and it guides many of our decisions in matters of conscience and conduct, frequently without a realization of the technic we are using when we decide to commit a few minor wrongs to accomplish a greater right.

Man-made laws have always been the measuring stick upon which to decide what action in a community may be considered tolerable or intolerable—those that are intolerable being wrong, and by the law of opposites, those that are tolerable must be right.

In order to enforce the decision of the community upon the individual, laws have been passed and legal machinery set up to inform the populace of these laws for the enforcement of these laws, for the punishment of offenders, and for the protection of the community against these offenders. For centuries little thought was given to the offender other than the obtaining of vengeance, and the necessity of curtailing his activities through death, mutilation, or horrible cruelties.

With the passing of the middle centuries, there was a gradual modification in the cruelties of punishment and the beginning of a somewhat more humane attitude toward prisoners as well as other unfortunates. This move progressed very slowly, so that even today we are still cruel and use solitary confinement, restraint, and worse measures, and we seek vengeance and even take a life for a life.

Until the last 4 generations, no serious legal procedures had taken into consideration the prisoner as an individual requiring study, nor was any attempt made to ascertain the reason why that particular person had committed a particular crime. It is only in recent years that the causes for crime have been carefully studied by scientific and psychiatric procedures, and an effort made to evaluate them. Elwood has pointed out that "there are 3 sets of factors at work producing crime: (1) the biologic one affecting heredity; (2) the sociologic one affecting training and adjustment; and (3) the psychologic one affecting an individual's moral decisions momentarily."

In reference to the matter of heredity, Sutherland has aptly said, "No child at birth must inevitably be a criminal, and likewise no child at birth could not be made a criminal, these facts being dependent upon adequate discipline in

childhood, environmental factors, and other sociologic influences having an effect on training and adjustment, so that there is always the effort of the individual to adjust to a situation. To eradicate crime and the criminal from society requires that man shall attain the same mastery over the social environment as he has already practically attained over his physical environment. To determine his degree of responsibility, therefore, a careful evaluation of his life's experience and of the type of existence to which he has been subjected must be considered."

From the medicolegal standpoint, the conception of right and wrong must be clarified for purposes of testing specific problems. Although many tests for right and wrong have been tried and discussed for centuries, the "concepts of right and wrong in questions of ethics do not endure scientific criticism since every social group has a model of its own and makes its own rules, none of which are permanent, so that what is wrong in one period and in one place may be quite right in another period or another place. The right and wrong test in this country varies also according to the state or even the county concerned."

Weihofen indicates the usual form in the United States now for stating the rule for determining a right or wrong test is the question, "Had the defendant the capacity to know right from wrong in respect to the particular act charged?" The need for a comprehensive right and wrong test has been particularly necessary since the term "insanity" had no real technical meaning, either legally or psychiatrically, and therefore is entirely inadequate; for this reason descriptive devices have had to be formulated to supplant terms.

Insanity (loosely defined as "idiocy," "imbecility," or "lunacy") was introduced as a defense for crime into England early in the fourteenth century. Bracton in the thirteenth century wrote that "an insane person is one who does not know what he is doing and is lacking in mind and reason, and is not far removed from the brutes." But such definition applied only in civil suits and had no bearing on criminal acts.

Littleton in the tenth century wrote that "A man who is of nonsane memory (that is to say 'qui non est compos mentis') cannot set this fact up as a defense, although his heirs may set up this defense," but again only in civil suits. Early in the sixteenth century, Fitzherbert suggested that "As a test for idiocy, a man must count 20 pence, must understand what should be for his profit, and what should be for his loss." Until he could thus qualify he could not enter

or defend a civil suit. To this "20 pence test" Sanford added a very curious statement: "If a man be able to beget either a son or a daughter, he is no fool, and therefore is responsible for his acts." Weihofen also recalls that Fitzherbert was among the first to mention the criminal liability of an insane person, when he stated: "He who is of unsound memory hath not any manner of discretion, for if he kill a man it shall not be felony or murder, because it appeareth that he hath not discretion." Therefore, the only test of criminal responsibility was whether the person had "discretion."

Cooke in the seventeenth century pointed out that "A madman does not know what he is doing and is lacking in mind and reason and therefore cannot have felonious intent." Hale a little later suggested that "When total insanity is proven, this removes all possibility of intent to commit crime," and suggested as a test for total insanity that "the person in question must be laboring under melancholy distemper, and must possess less understanding than an ordinary child of 14 years." This became known in the courts as "The child of 14 years' test." In 1800, in defending Haddfield, it was Erskine's contention that "A delusion where there is frenzy or raving madness is a true character of insanity, and in the presence of a delusion the accused must be discharged." Haddfield, having been discharged from the army, suffered from systematized delusions in which he believed he must sacrifice himself for the world's salvation and therefore shot at King George 3d, expecting to be executed, and thus make the sacrifice demanded by his delusions. When it was shown that this act was based upon delusion, the judge accepted Erskine's contention, stopped the trial, and instructed the jury to find that the prisoner was mentally irresponsible and so to acquit him.

Only 12 years later, however, we find evidence of the inconsistency of mankind. Bellingham, a man under the delusion that the government owed him large sums of money, shot and killed a treasury official who had refused him satisfaction. The court in this instance instructed the jury that they should ignore the presence of a delusion, and that the only question for them to decide was, "Had the man sufficient understanding to distinguish good from evil, right from wrong, and to know that murder was a crime against the law of God and his country?" The jury found him guilty and he was executed within 8 days.

The famous opinion rendered in the M'Naughton case in England in 1843 helped to clarify this subject considerably by stating that "A man

with partial delusion must be judged as if the facts of the delusion were true. Further, that the defendant may be excused if it is shown that through mental disease he did not know the nature or the quality of the act he was doing, and if he did not know it, that he did not know he was doing wrong; therefore, to be excused, a defendant must be *so mentally unsound as to not know right from wrong in regard to the act charged.*"

Our present-day method of determining the degree of responsibility a man may have for his acts, although further advanced than any before our time, nevertheless is sadly lacking in accurate technic not only for the examination but also for the procedure before the law. It is more or less generally accepted that the most useful test for responsibility is capacity to distinguish right from wrong, although in some instances it has been recognized that this may exist even without the power of self-control.

The Irresistible Impulse Test as an excuse for the commission of crime has existed since before 1840, but in Pennsylvania and in most other states in America it has largely been discarded in recent years, partly on the basis that no such thing as "irresistible impulse" exists, and if it does exist, "it is too difficult to prove or to be allowed as a defense for crime, and could therefore prove dangerous to society." In some states, however, it is permissible to attempt to prove irresponsibility on the basis of "such an insane irresistible impulse as to render a man unable to resist carrying out a criminal act." In Pennsylvania the court has stated that "No otherwise sane man can be excused from a crime because his conscience ceases to control or influence his actions," so that neither emotional nor moral insanity would excuse him. The question of partial delusions has been much discussed and it is generally conceded that this cannot be completely separate since a delusion is not an independent phenomenon which may exist in a mind otherwise sane, but it is an external symptom indicative of a much deeper mental disturbance. "Insanity is a disease of the mind and a delusion is a symptom of that disease."

The present method of examining a prisoner for his degree of responsibility in most places is through the appointment of a lunacy commission. In Pennsylvania a man must plead insanity as a defense under the plea of not guilty. When evidence of insanity is introduced, the defendant is acquitted. The jury is required to find specifically whether he was insane at the time of the offense, and to decide whether he

was acquitted on that ground. On such a verdict, the court has power to order the defendant committed to a hospital for mental disease or may appoint a commission to inquire into his sanity and report to the court, or the court may parole the defendant who has been acquitted by reason of insanity. A defendant can be discharged from the hospital only by the court which has committed him. The court may deliver him to the custody of friends on satisfactory security, and with authority to restrain him from committing any offense. Also, the court may relieve him on parole from the institution. Any person is entitled to a writ of "habeas corpus" on a sworn statement that the person in confinement is not insane. The burden of proving insanity then rests upon those restraining him of his liberty.

There was formerly a curious ruling in relation to mutism. If a defendant should stand mute and refuse to say anything, a jury was compelled to try, whether he stood mute by an Act of God, or by obstinacy and on purpose. If the jury found him mute by an Act of God, he was presumed to be an idiot and the court would act as his counsel and try the case as if he had plead not guilty. If the jury found that he stood mute by obstinacy, he was subjected to "peineforte et dure" until he became more reasonable and agreed to plead, or die.

In this ordeal, "peineforte et dure," the prisoner was sent to a dungeon, stripped of clothing, laid on a bare floor, had his arms and legs extended by ropes to the 4 corners of the room, and had an iron weight "as heavy as he could bear or more" laid on his body. The first day he was given 3 morsels of bread and no water; the second day 3 draughts of water and no bread; and "this to be his diet until he die." In America today if a man refuses to plead, the court may order a plea of not guilty for him. In New Jersey there is still a law permitting a person who is standing mute before the court to be sent to jail until he recovers or speaks. Thus a deaf mute or other person may be imprisoned for his affliction.

In Texas they have an interesting law in which "if a person pleads guilty to a charge of crime, he is presumed to be out of his mind, and the state must prove him sane or acquit him." The court has said that "the theory of the law is that no citizen in his right mind would plead guilty to crime."

A number of reforms are taking place in an effort to clarify and simplify in a more accurate manner procedures in relation to mentally incapacitated prisoners. Among these measures

there has been advocated by the New York Psychiatric Society and the American Psychiatric Association the abolition of the hypothetical question which so often beclouds the issue.

The method of appointment of experts to examine and report upon the prisoner has changed considerably in recent years and is different in each of the many states. In most states the court may appoint experts to examine a prisoner when mentally incapacitated, and the question of responsibility becomes an issue during the trial. Usually the law permits not more than 3 experts. Many laws in relation to expert testimony have failed to qualify the experts and properly have been severely criticized. The American Bar Association in 1927 recommended that there be available to every criminal and juvenile court a psychiatric service to assist the court in the disposition of offenders. The American Psychiatric Association in 1928 recommended that "the expert witness be permitted an opportunity to perform a thorough and complete examination just as if he were in a clinic or hospital, and that a written report be obligatory." The value of committing a prisoner to a mental hospital for observation cannot be overestimated, for after a few weeks in a mental hospital there can be little doubt as to the accuracy of the findings.

The most recent effort to define the qualification of experts is that which became law in New York in 1939 under the "Code of Criminal Procedure." "A defendant may be examined to determine the question of insanity, by direction of the court, or on motion of the district attorney, or of the defendant. The court may then require the superintendent of a state hospital, certified by the Commission of Mental Hygiene, to designate, from that hospital, 2 qualified psychiatrists as defined in the mental hygiene laws, of whom the superintendent may be one, to examine the patient. If 2 such qualified psychiatrists are not available, the superintendent may designate any 2 qualified psychiatrists in the state."

The ruling for the City of New York varies somewhat in that the director of the Division of Psychiatry of the Department of Hospitals shall be the man to designate the qualified psychiatrists to make the examination. Further, it is specified that "these examinations may be made at the place of detention, or on recommendation of said superintendent the court may commit the defendant to a mental hospital for observation and examination. The psychiatrists may continue the examination for such period as may seem necessary and they may have authority to

call witnesses, to take evidence under oath, and to compel attendance of witnesses, and the producing of all papers and records by the court. If the 2 psychiatrists certify the prisoner is insane, and the court concurs, the trial must be suspended until he becomes sane, and the patient committed to a state hospital for the insane, either in the Department of Correction or in the Department of Mental Hygiene. He may be transferred from one hospital to another in either department as may be approved by the heads of such departments."

"A prisoner so committed shall remain in an institution until he is no longer in such state of idiocy, imbecility, or insanity as to be incapable of understanding the charge against him or of making his defense. In that event the superintendent of the hospital will report such fact to the court, and the person may then be returned to the authority by which he was originally held in confinement and brought to trial or discharged." There is an additional clause permitting the court to order an examination for the sanity of a defendant even if not under indictment.

The New York law in relation to irresponsibility reads that "An act done by a person who is an idiot, imbecile, lunatic, or insane is not a crime. A person cannot be tried or sentenced to any punishment while he is in a state of idiocy, imbecility, lunacy, or insanity so as to be incapable of understanding the proceedings or making his defense. A person is not excused from criminal liability as an idiot, imbecile, lunatic, or insane person, except upon proof that at the time of committing the alleged criminal act, he was laboring under such a defect of reason as (1) not to know the nature and quality of the act he was doing, or (2) not to know that the act was wrong."

It is obvious that New York has stepped well ahead of other states in specifically demanding that mental patients be examined by qualified psychiatrists and defining what they mean by "qualified psychiatrists." In Pennsylvania we have no such protection of our mentally incapacitated prisoners. Our lunacy commissions consist of a lawyer and 2 qualified physicians, meaning licensed physicians who have been out of school more than 3 years. There is no rule demanding a psychiatric examination, and of course, therefore, no description of "qualified psychiatrists."

We psychiatrists are inclined to leave all reform efforts to social groups, whereas it is our responsibility to mould public opinion and lead

the way in developing, along scientific lines, the newer methods of determining right from wrong, and the degree of responsibility of a man for his acts. It may be proper as a step in this direction for us to make a specific effort to alter our present laws in relation to lunacy commissions and demand that each lunacy commission shall consist of a qualified attorney and at least 2, preferably 3, qualified psychiatrists to make the examination of mentally incapacitated defendants. The qualifications of these psychiatrists should be carefully stated and should permit the inclusion only of those whose training and whose requirements are on the highest plane. It may be proper to demand, among other things, that these psychiatrists shall be diplomates of the National Board of Psychiatry and members of the American Psychiatric Association in good standing. In accordance with the suggestions of the Pennsylvania Mental Hygiene Committee, made some years ago, it would be well to have a list of all such psychiatrists, from which list the court could make its selection.

The New York law limits the court in the use

of only state hospital men and thus prohibits the utilization of some of their best medicolegally trained men in the various medical schools, which is particularly unfortunate near large cities. Also, the New York law places the responsibility of selection of the psychiatrist upon the shoulders of a hospital superintendent instead of permitting the court discretionary power in the selection of the expert. It would seem better to make the psychiatrist qualify on the basis of his learning and his stature in the community rather than solely on his hospital appointment, and also to permit the court a selection from those eligible. The fees for expert testimony will also have to be modified to lessen the burden upon the state, although it is important that the costs be covered by the state and not by the litigants. This whole subject requires a great deal of thought and study and it is hoped that some interest will be aroused so that, before very long, psychiatrists in Pennsylvania may lead a further step in the direction of modernizing some parts of our criminal code having to do with mental patients.

INDUSTRIAL HEALTH DEFENSE— "COMMON COLD"

Cost.—The "common cold" costs the average person about 3 work days (or school days) each year. That totals as much as a Liberty Loan in World War I, or approximately \$3,000,000,000. Counting lost wages, cost of drugs and medical care, the average cold bill per worker is about \$15. The employer's loss is even greater in disrupted operating schedules, spoilage, and delays. The greatest health problem in industry is the so-called "common cold," which outnumbers any other disease 25 to 1. That "just a cold" may be just the beginning of pneumonia, flu, scarlet fever, measles, diphtheria, or other respiratory ills.

Causes.—Colds are broadcast in many ways, especially by sneezing, coughing, kissing, handshaking, and by using dishes, drinking glasses, and tableware which have not been sterilized. Colds can be caught by touching objects, like towels or utensils, which have been handled or sneezed on by an infected person.

"Cover your cough or sneeze!" An unstifled sneeze sprays the air with thousands of droplets; some of them travel 12 feet and at a speed as high as 150 feet a second, while the majority go at least 2 or 3 feet. Some droplets fall to the ground. Others evaporate, leaving their bacteria suspended in the air so that they may be spread about and inhaled by others. These "delayed action bombs" are said to stay "alive" for 5 hours.

"Cures."—The only sure-fire "cure" for colds is to avoid them, or to ward them off at the first sign of a sniffle, a dry throat, or "stuffed up" head. Go to bed if possible, for rest speeds recovery. You may have a cold or you may be on the verge of pneumonia. Rest

helps ward off something serious; it also takes the cold out of circulation. Don't pass it around.

See the physician for proper care and medication. It's his business to prescribe, not the patient's. One man's cake may be another man's poison. Pet remedies may cure or harm because individuals react differently.

Proper food, like proper rest, builds defensive barriers against colds. Milk, eggs, fruit, and vegetables are "tops." They are rich in vitamins which protect the lining of the nose and throat where cold germs go to work. A pint of milk, 3 pats of butter, a serving of a green vegetable, and an egg will supply the amount of these foods a person needs in a day.

Other "do's" and "don'ts" for preventing colds: Keep physically fit . . . keep comfortably warm . . . dress sensibly . . . exercise in the open air daily, if only a brisk walk . . . avoid sudden chillings . . . and avoid persons with colds. Disobeying these common-sense rules lowers resistance, invites colds.—*Air Hygiene Foundation, 4400 Fifth Ave., Pittsburgh, Pa.*

SUICIDE ON INCREASE

More than twice as many persons commit suicide nowadays as did in 1920, United States Census Bureau figures just released for the 18-year period between 1920 and 1938 show. The total number of suicides in the registration of the United States for the year 1938 was 19,202. The 1938 suicide rate, 15.2 per 100,000 estimated population, is the highest since the depression period, when the all-time high rate of 17.4 per 100,000 was recorded in 1932.—*Modern Medicine*, October, 1940.

Pneumococcic Meningitis with Reference to Sulfapyridine Therapy

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RECOVERY from pneumococcic meningitis, heretofore considered almost an impossibility, became a fact with the advent of sulfapyridine therapy. Despair turned into hope and darkness into light.

The first case treated and cured by sulfapyridine was reported by G. C. K. Reid and S. C. Dyke. There have been others who described successes with this drug. However, the contributions to the literature have, so far, been case reports with no attempt at critical analysis, save one by H. L. Hodes et al. This dearth of analytical data is undoubtedly due to the not too frequent incidence of pneumococcic meningitis. The drug being new, more time naturally will be required to permit the accumulation of sufficient data to allow adequate statistical review. The case reported herein, it is hoped, will add to the knowledge in this field of successful chemotherapy.

Case Report

C. S., a colored male, age 25, was admitted to the medical service of the Philadelphia General Hospital, Nov. 7, 1939, at about 5 p.m. in a delirious state. No history was available regarding how the condition of the patient was brought about.

Examination on admission revealed an oral temperature of 102.2 F., respirations of 20, and a pulse rate of 80 per minute. The patient, who was well developed, appeared very ill. He was restless, tossed about in bed, and persisted in holding the back of his head with his hand.

His skin was hot and he perspired profusely. Lymph nodes were easily palpable in the post-cervical and inguinal regions.

No evidence of recent injury was present on the scalp. The aural canals were free of any discharge. Both tympanic membranes appeared normal and there was no mastoid tenderness. The pupils were contracted and unequal, the right being larger than the left. They did not respond to light. The fundus oculi presented no evidence of choking or of recent or old exudates. A slight mucopurulent discharge was present in the nostrils and the turbinates were moderately injected. The

mouth was essentially negative, as were the lungs. No enlargement of the heart was noted; the sounds were rhythmic and of good quality, though a soft blowing systolic murmur was audible over the base and apex. The blood pressure was 126/70.

The abdomen was soft. There were no palpable organs, masses, or tenderness. No rose spots were seen. An old scar was present in the right groin. The extremities, genitalia, and anus were negative.

Neurologic examination revealed the cranial nerves intact. The tendon reflexes were symmetrical and hyperactive in the upper and lower extremities. The Babinski, Oppenheim, and Gordon signs were doubtful; nuchal rigidity was very marked in all planes.

Shortly after the examination, the following history was obtained from a relative: The patient arrived from Florida early in September. He caught a cold which was accompanied by a slight cough. On Oct. 5, 1939, he complained of headache. The following day, when this became severe, he was forced to discontinue his work and go to bed. On Oct. 7 the headache grew worse. He commenced to vomit and he was taken to the hospital.

The history showed a predilection to frequent "head colds" and an indefinite reference to a "few shots," possibly intravenous treatment for syphilis.

Lumbar puncture yielded a cloudy fluid. Pneumococci, type III, was found on laboratory examination.

Two grams of sulfapyridine were administered at once, followed by one gram every 4 hours, day and night. Equal amounts of sodium bicarbonate were given concurrently as well as 100 mg. of nicotinic acid to allay the nausea and vomiting, which frequently interferes with the retention of the drug. Treatment otherwise was symptomatic.

Lumbar taps were done only frequently enough to follow the course of the disease rather than to drain as much of the spinal fluid as possible.

On Oct. 8 the patient appeared less toxic. No infection in the ears, nose, or throat was found by our laryngeal consultant, Robert J. Hunter, M.D., who examined the patient on this day. The following day the patient was definitely improved. A second specimen of cerebrospinal fluid was cloudy and under increased pressure, but was sterile on culture.

An electrocardiogram as well as a roentgenogram of the mastoids and paranasal sinuses taken Oct. 8 were reported to be normal.

On Oct. 10 the temperature, pulse, and respiration were normal and remained so during the remainder of the patient's period of hospitalization.

TABLE I

Date	RBC	WBC	Hg.	Granulo- cytes	Lympho- cytes	Mono- cytes	Eosino- phils	Baso- phils
10/ 7/39	5,100,000	24,300	14 gm.	87	12	1	..	..
10/ 9/39	5,200,000	22,200	12 gm.	64	26	8	..	2
10/16/39	4,600,000	6,500	14 gm.	44	36	14	6	..
10/18/39	5,500,000	10,100	12 gm.	48	46	4	2	..
10/20/39	.....	8,200	13 gm.	62	30	4	2	2

His convalescence was uneventful except for one episode, a generalized epileptiform convulsion on Oct. 13, lasting a few minutes. Immediately following the seizure, he appeared well again. Subsequent examination and study shed no further light on the convulsion. The patient progressed steadily to ultimate recovery.

On Oct. 14 all clinical signs of meningitis had disappeared. Re-examination of the ears, nose, and throat by Dr. Hunter did not alter his original opinion. The sphenoid sinuses as well as the mastoids in the Stenver position were re-examined by roentgen ray and again reported normal. Two roentgenograms of the chest were similarly negative.

The patient received 25 gm. of sulfapyridine in doses and manner noted above. Following the seizure, the patient received an additional gram of the drug, with the hope that it might allay whatever irritation had remained of his original infection. However, we found it of no advantage to continue the drug any longer.

The patient was discharged Oct. 28, completely recovered. He was seen twice in our follow-up clinic and has remained well to the present day (Nov. 15).

Laboratory Data.—The urine was repeatedly negative except for leukocytes reported in moderate abundance (2 plus). The blood Kahn and blood cultures were negative; the blood sugar on a single determination was 63 mg. per cent and the blood urea nitrogen ranged from 12 to 15 mg. per cent. The blood counts are listed in Table I.

On Oct. 9 the sulfapyridine level in the blood was 8 mg. per cent; on Oct. 12 it was 7.3 mg. per cent; and on Oct. 17 it was 0.5 mg. per cent. The icterus index was 7 units.

The spinal fluid determinations are shown in Table II.

In Table III are summarized all the sulfapyridine-treated cases of pneumococcic meningitis that have appeared in the literature to date, including our own; 38 cases are listed. Cases 19 and 20 were merely mentioned in a broader survey of pneumococcic infections.

It would appear that the earlier in the disease the sulfapyridine treatment is instituted, the better the prognosis. That the drug may be useful some days after the onset, however, is shown by cases 8 and 16 in which recovery occurred even

though treatment was not begun until the seventh and sixth day of the disease respectively. As yet, no relationship between the type of pneumococcus and the effectiveness of sulfapyridine has been found.

The total quantity of drug used varied considerably in the cases listed. Of those patients recovering, the largest quantity used was 155 grams and the smallest, 3 grams. In most instances, less than 50 grams were employed. Similarly, the spinal fluid concentration varied considerably. It ranged between 1.55 mg. per cent in a patient who recovered and 29.0 mg. per cent in a case that ended fatally.

Supplemental "specific" therapy was used in only 7 of the cases charted. In 6 of these 7 cases, sulfapyridine was initiated and the other treatment stopped when the latter appeared ineffective. In case 5, however, although the patient was aided effectively by sulfapyridine, a sterile cerebrospinal fluid was obtained only after type-specific antiserum was employed. Nineteen of the 38 patients presented potential foci of infection whence invasion of the meninges with pneumococci may have occurred. Of these 19 foci, 2 involved the paranasal sinuses, 10 the middle ear or mastoid, 6 the lungs or pleura, and finally, one the eye, in the form of a panophthalmitis. Toxic symptoms were reported in only 10 cases, the most frequent manifestation being hematuria, which occurred in 4 cases, or approximately 10 per cent of all those reported. Twenty-two made remarkably complete recoveries.

Comment

Admitting that more time is essential for a comprehensive evaluation of sulfapyridine therapy in pneumococcic meningitis, enough has been learned to justify the assumption that the

TABLE II
SPINAL FLUID DETERMINATIONS

Date	Appearance	Pressure—mm. of Hg.			Total Cells	Granulo- cytes	Lympho- cytes	Endo- thelial Cells	Mg. Per cent		Serology and Bacteriology
		Initial	Final	Protein					Sugar	Chlorides	
10/ 7/39	Cloudy	58	40	Heavy cloud	10,400	75%	25%	0	..	...	Type III pneumococci
10/ 9/39	Slightly cloudy	34	20	Cloud	746	80%	20%	0	44	670	No bacteria
10/12/39	Clear	16	10	Faint cloud	174	4%	94%	2%	..	...	Wassermann test negative
10/16/39	Clear	18	10	Trace	68	44%	48%	8%	..	...	No bacteria
10/23/39	Clear	12	8	Trace	14	0	100%	0	63	...	No tubercle bacilli No gonococci

TABLE III

Author	Case No.	Treatment Interval (Days)*	Effect Interval (Days)†	Type	Total Dosage (Grams)	Cerebrospinal Fluid Conc. Mg. %‡	Supplemental Specific Therapy	Focus of Infection	Toxic Symptoms	Result	Remarks
G. C. K. Reid	1	1	1		22.5		None			Recovered	
S. C. Dyke	2	3	1		over 30		Antiserum soluseptasine		Frank hematuria	Recovered	
K. Robertson ..							Sulfanilamide	Right frontal and maxillary sinusitis	Nausea, vomiting, and cyanosis	Recovered	
A. Cunningham	3	1	2	I	50	8.5	None			Recovered	
D. McAlpine and G. C. Thomas	4	3	2		25.5	3.0	None			Recovered	
M. Cutts et al.	5	4	4	XX		1.7	Antiserum		Pustular eruption	Recovered	Spinal fluid sterile only after rabbit serum given
G. B. Robinson	6	1	1	1	3		Antimeningococcic serum		Cyanosis	Recovered	Antimeningococcic serum given before bacteriologic report available
A. Yule	7	1	3?		about 52		M. & B. 125	Acute right mastoiditis		Recovered	
R. C. MacKeith and G. Oppenheimer	8	7	4	IV	12	1.55	Prontosil			Recovered	
R. C. MacKeith and G. Oppenheimer	9	5			4		None			Died	
	10	3		III	70		None	Right otitis media		Recovered	
	11	2			11		None			Died	
K. May	12	1			1		None	Pneumonia	Slight anemia	Died	Meningitis developed in course of sulfapyridine therapy for pneumonia
	13				8.5	3.4	None			Died	
P. S. Raman ..	14	3	3		155		None			Recovered	
J. D. Atchison	15			XVI	29		None	Pneumonia empyema		Died	Meningitis developed in course of sulfapyridine therapy for pneumonia
H. Dunlop and J. Laurie	16	6	4	IV	40.5		None	Frontal sinusitis		Recovered	
F. S. T. Hutchison and M. Herman	17	2½	1	IV	15		Prontosil			Recovered	
J. H. Dowds ..	18				24		None	Pneumonia		Died	Meningitis developed 24 hours after an 8-day course of sulfapyridine had been stopped
H. L. Barnett et al.	19						None			Recovered	No additional data given "
	20						None			Died	
H. L. Hodes et al.	21	5		XXV		40	None	Pneumonia		Recovered	
	22	3		I			None	Otitis media	Hematuria	Recovered	
	23	3		V			None	Otitis media	Granulocytopenia	Recovered	
	24	3		IX		4.0	None			Recovered	
	25	4		XXIII		13.3	None		Moderate leukopenia	Recovered	
	26	3		XII		7.5	None			Recovered	
	27	5		III		20.0	None	Otitis media		Recovered	
	28	2		III		15.0	None	Otitis media		Recovered	
	29	7		VII		5.2	None	Otitis media	Severe vomiting and hematuria	Died	
	30			XII			None			Died	
	31			VI			None	Otitis media		Died	
	32			XXIX		7.5	None	Otitis media		Died	
	33			VI			None			Died	
	34			XIV		11.4	None	Pneumonia		Died	
	35			XXXII		7.5	None	Panophthalmitis		Died	
	36			XIX		29.0	None	Otitis media		Died	
	37			XXXI			None	Pneumonia	Hematuria	Died	
Authors	38	2	3	III	26		None			Recovered	Seen in follow-up—Well 6 weeks after admission to hospital

NOTE: The table was filled in wherever the data was available.

* Treatment interval—interval between onset of symptoms and exhibition of sulfapyridine. Less than 24 hours counted as one day.

† Effect interval—interval between exhibition of sulfapyridine to marked clinical improvement.

‡ Cerebrospinal fluid concentration: When more than one value is given, highest figure is taken.

drug constitutes an important addition to the available armamentarium on the subject. Pneumococcic meningitis had, heretofore, an almost 100 per cent fatal prognosis. With the introduction of sulfapyridine, recoveries are now not uncommon. It is possible that our table showing 22 recoveries and 16 deaths betrays an exaggerated optimism. Successes are more apt to be reported than failures. Yet Hodes and his co-workers, reporting a consecutive series of 17 cases, had 8 recoveries and 9 deaths. R. C. MacKeith and G. Oppenheimer's 5 cases included 2 recoveries and 3 deaths. These studies would at least hint that the successes with sulfapyridine are occurring with a definite degree of regularity.

Treatment with sulfapyridine should naturally begin as early as the identity of the disease has been established, yet case 8 recovered even though the treatment had been initiated on the seventh day. There is, at present, no dosage plan available. Our patient was started, as previously stated, on 2 grams and then given one gram every 4 hours, day and night, until a total of 25 grams had been reached. As to dosage, one may be reasonably guided by the cerebrospinal fluid concentration of sulfapyridine, which is said to be 50 to 70 per cent of that of the blood. Hodes and his co-workers advise the maintenance of a spinal fluid concentration of 10 to 15 mg. per cent of free sulfapyridine. To attain this, they recommend the administration of the sodium salt of sulfapyridine intravenously. Nevertheless, several recoveries occurred with spinal fluid values considerably below this (see Table II).

In many of the cases cited herein the rapidity with which the drug exerted its beneficial influence was striking. In our case the clinical improvement became pronounced in less than 24 hours, and the spinal fluid obtained on the second lumbar puncture was already sterile. This speed of action we attempted to evaluate in our table under the title of "Effect Interval," although the figures tabulated are not based on standard criteria. The writers cited frequently commented on the rapidity of the drug's action. At the same time, relapse occurred in case 10 after the consumption of 40 grams of the drug, and in case 14 after 80 grams. Both patients recovered when treatment was again instituted. It is therefore suggested that the drug be continued for several days after *all symptoms have disappeared*.

The diagnosis of meningitis in cases 13, 15, and 18 as a complication of pneumonia treated with sulfapyridine demonstrates the restrictions

of the drug's usefulness. All 3 patients died. They manifested a phenomenon referred to as sulfapyridine "fastness." The limitations of sulfapyridine therapy are also demonstrated by case 5. Here, the patient appeared to have benefited clinically, yet the spinal fluid became sterile only after specific antiserum had been used.

Because of the problems arising out of our case, we were interested in the frequency of an ascertainable primary focus of pneumococcic infections in instances of pneumococcic meningitis. We were under the impression that usually such an origin was obvious. That this is not necessarily so can be inferred from the cases reported in this paper, for exactly one-half exhibited no apparent primary source of infection.

The toxicity of sulfapyridine is being constantly brought to the fore. The frequency of hematuria, particularly, has been noted and studied by Hodes and his co-workers. Recently one of us has seen a case of generalized exfoliative dermatitis occurring in a sulfapyridine-treated individual, which ended fatally. Nevertheless, in spite of the peril inherent in its use, sulfapyridine therapy in pneumococcic meningitis is justifiable in view of the high mortality associated with the cases treated otherwise.

Conclusions

It would seem fairly safe then, at this time, to conclude that the routine use of sulfapyridine in cases of pneumococcic meningitis is definitely indicated, the administration of the drug to commence in all cases of pyogenic meningitis immediately upon obtaining cloudy spinal fluid, even before a full laboratory report becomes available. Sulfapyridine has been shown to be effective against the meningococcus, streptococcus, and pneumococcus. These organisms are responsible for 90 per cent of cases of pyogenic meningitis (Whitby quoted by D. McAlpine and G. C. Thomas). Meningococcic meningitis has been clinically dealt with successfully. Similar success was reported even in a case of non-pyogenic meningitis (otogenic cellular meningitis).

Summary

1. All the reported cases of pneumococcic meningitis treated with sulfapyridine are summarized herein.
2. The authors report a case of type III pneumococcic meningitis treated with sulfapyridine which resulted in recovery.
3. Sulfapyridine is recommended for use in all cases of pyogenic meningitis, particularly those of pneumococcic origin.

Rocky Mountain Spotted Fever in Southeastern Pennsylvania

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UP TO a few years ago Rocky Mountain spotted fever was believed to be limited geographically to the states of the northwest mountainous region and the Pacific Coast. Although it was demonstrated in 1910 that this disease and typhus fever are immunologically distinct, Rocky Mountain spotted fever was apparently confused with typhus in the eastern United States until 1930. At this time there were noted certain clinical and epidemiologic differences between cases occurring in the southeastern states in the spring months and usually identified as typhus, but defined subsequently as having features characteristic of spotted fever. In a more complete report R. E. Dyer, A. S. Rumreich, and L. F. Badger demonstrated cross-immunity between eastern and western strains of spotted fever and identified the American dog tick (*Dermacentor variabilis*) as the transmitting agent in the east.

Spotted fever is endemic in at least 42 of the 48 states at the present time and since 1931 it has been reported in 26 of the central and eastern states. Although recognition has been recent in the east, it is now believed that spotted fever has been endemic in the eastern and central states as long as in those farther west. At present there is no reason to believe that there has been any natural spread of the virus from the Rocky Mountain region since there is no evidence of any widening of the range of the wood tick indigenous to that section, nor is there any evidence that transportation of ticks by cattle or rabbits shipped from the western region has resulted in establishing the disease in any of the eastern or central states.

The Virus and the Disease in Nature

Rickettsia are much smaller than most bacteria. They resemble either cocci or bacilli and are found typically in arthropods. They are

gram-positive but are best demonstrated with Giemsa stain.

The perpetuation of the virus and the disease in nature has been described by R. R. Parker as due to 3 reasons: (1) the stage to stage and generation to generation transmission of the virus in ticks, (2) the stage to stage transmission of the virus in ticks plus the beginning of new lines of tick infection each year by the simultaneous feeding of infected and noninfected ticks on a susceptible host, (3) the occurrence of the spotted fever virus in the rabbit tick. This last is of outstanding importance in relation to the fact that the rabbit tick virus is mild, and since the wood tick and the rabbit tick meet on the rabbit this animal may serve as the host which maintains the disease.

At the present time 3 ticks are proved transmitting agents of the virus of Rocky Mountain spotted fever: (1) the Rocky Mountain wood tick (*Dermacentor andersoni*), the American dog tick (*Dermacentor variabilis*), and the rabbit tick (*Haemaphysalis leporis-palustris*). Five other species are potential transmitting agents. The 3 definitely proved carriers are distributed geographically so that the whole United States is covered, extending into South America and up to Hudson's Bay, the rabbit tick having the widest distribution.

The biology of the American dog tick, the important transmitting agent in the eastern and central states is not well known; however, it is similar in many ways to that of the wood tick (*Dermacentor andersoni*). The life cycle probably is completed in 2 years. In the early stages they feed on rodents and the adults feed on dogs, cattle, and deer. The adults of *Dermacentor variabilis* develop later in the spring than the wood tick and remain longer into the summer, accounting for the different seasonal incidence of Rocky Mountain spotted fever in the West where the disease is almost over by the end of May while in the East it lasts through and sometimes beyond August. In large numbers of ticks

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tested the percentage of infected ones varies from 1 to 11 per cent in different localities.

The Disease in Man

The only known natural modes of infection are by the tick bite or possibly crushing the insect and having the virus pass through the unbroken skin or conjunctiva. For the tick to be infective, even though it may bear the virus, it must be attached to the human body for at least 6 to 8 hours before the virus is "reactivated" by engorged blood. The shortest reported time in which reactivation is known to have taken place is $1\frac{3}{4}$ hours of attachment.

The greatest number of cases occur among those people engaged in outdoor pursuits such as agriculture, sheepherding, camping, and picnicking. The clinical forms vary from ambulatory or abortive attacks, with or without a rash, to the fulminating cases with early termination. The disease in most of the patients falls somewhere in between these 2 extremes, with an incubation period of from 3 to 7 days frequently following a known tick bite. The onset is abrupt, preceded by malaise for a few days and characterized by chills or chilliness, fever, intense headache and backache, prostration, and anorexia. The temperature ranges from 102 F. to 106 F. with morning remissions lasting 14 to 21 days and declining by rapid lysis. Between the third and seventh day the rash, which is the manifestation of the characteristic lesion in the blood vessels, appears. This is first noted on the wrists and ankles, becoming petechial and at times purpuric. Evidence of this may persist for weeks in the form of dusky purplish or yellow-brown spots. In severe cases there may develop necrosis with sloughing of the skin, due to the increase of the lesions in the blood vessels with proliferation of the endothelial cells, local necrosis of endothelium and smooth muscle with thrombosis.

At the height of the illness the face is flushed occasionally with a dusky hue; the tongue is dry and coated with bright red edges. The pharynx is inflamed and the conjunctivas are injected. The spleen is frequently palpable, and usually tender. Signs of central nervous system irritation are common with lethargy, insomnia, irritability, delirium, rigidity of the neck, and positive Kernig sign. During the acute course of the disease prostration, headache, nausea, vomiting, backache, and leg pains with abdominal pain are important symptoms. Leukocytosis is common and agglutination of *B. proteus* X 19 in dilutions of serum over 1:80 is present in most cases after the second week, although a

positive reaction in dilutions of 1:640 is the generally accepted criterion for diagnosis. Convalescence is frequently protracted with mental confusion lasting for weeks at times and deafness and visual disturbances occurring in a small number of instances.

In differential diagnosis one must consider typhoid fever, measles, scarlet fever, post-measles encephalitis, purpura hemorrhagica, syphilis, Colorado tick fever, typhus fever, epidemic cerebrospinal meningitis, and the non-specific reaction which occasionally follows tick bite.

Treatment consists largely in supportive care with careful nursing and preservation of the patient's strength. Elimination is encouraged and ample amounts of fluids are given. Depressing antipyretics should be avoided. The sulfonamide compounds are of no value in treatment.

The mortality of the disease varies from 10 to 80 per cent depending upon the locality; however, it is to be noted that the mortality of Rocky Mountain spotted fever in the east and west is almost the same, being 18.1 per cent in the former and 19.4 per cent in the latter during the period of 1933 to 1937. It is suggested that this apparent similarity may be somewhat influenced by the widespread prophylactic vaccination in the mountain and Pacific sections.

Rocky Mountain Spotted Fever in Southeastern Pennsylvania

During the spring and summer of 1939, 13 cases occurring within 30 miles of Philadelphia were reported to the Pennsylvania State Department of Health. Exact data could not be obtained in most of these cases so that it is uncertain whether or not each was actually a case of spotted fever. In the excitement which prevails at the time of an epidemic the diagnosis is apt at times to be forced by overenthusiasm. On the other hand, it seems safe to infer that actually many more cases occurred, but perhaps because of their mildness or for other reasons were not detected or reported.

Experimental Studies

Because of the widespread interest in the disease and the undue alarm occasioned by it, we undertook a study to determine roughly what percentage of ticks in the environs of Philadelphia harbored the infection.

Method.—Since recent engorgement of blood is required to reactivate the virus of Rocky Mountain spotted fever if present, engorged ticks were collected by volunteers from dogs roaming the woods and fields. Material from

ticks obtained from 18 different localities were grouped into 18 lots and injected into sets of 2 guinea pigs each. The insects from a given locality in lots of 10 each were emulsified in 10 c.c. of sterile physiologic salt solution and filtered through sterile gauze to remove the chitin and other debris. Five c.c. of the filtrate was injected intraperitoneally into each of 2 healthy guinea pigs. Rectal temperatures were then recorded daily for 21 days. At the end of that time if fever above 39.5 C. had not appeared, the filtrate was considered clinically not infected, although the possibility of subclinical or inapparent infection remained. If the temperature rose above 39.5 C., 4 c.c. of blood was taken from the heart and transferred intraperitoneally to 2 healthy guinea pigs in an effort to establish a strain of the virus. Fever appeared from 14 to 16 days later in at least one guinea pig of 5 sets. Blood taken from the heart of each febrile animal was further injected into fresh guinea pigs, but in only one instance was fever again detected. From this animal in turn a transfer was made to 2 healthy guinea pigs and once again the injected animals developed fever, but this time after a shorter period (4 to 6 days). After the same response following the third passage of blood it seemed certain that we had obtained a specific infection which would require further investigation to establish its identity. With this in mind we proceeded with transfers to study the course of the disease in guinea pigs.

The Disease in Guinea Pigs

The incubation period varied from 2 to 6 days following the intraperitoneal injection of blood or emulsified spleen, with a tendency towards the longer period when the latter infecting substance was used. The fever lasted from 3 to 7 days with the temperature ranging between 40 and 41 C. (104 and 106 F.). During the febrile period the animals ordinarily ate little and lost weight. Scrotal reddening and swelling was observed in approximately 10 per cent of the animals, although it was never severe. Twenty per cent of the infected animals died. In contrast, those animals infected with the Bitter Root Valley strain of western Rocky Mountain spotted fever obtained through the courtesy of the National Institute of Health at Washington, D. C., all manifested intense scrotal inflammation, frequently with necrosis, and death occurred in 98 per cent of cases.

At necropsy examination of the guinea pigs infected with our strain, the most constant finding was a firm, dark red spleen enlarged 2



Fig. 1

to 3 times. In those few animals with scrotal swelling no plastic exudate was found in the scrotum, but stained sections of the tunica vaginalis revealed rickettsia (Fig. 1).

Immunity Tests.—Following the establishment of an infectious disease in guinea pigs characterized by an incubation period of 2 to 6 days followed by fever and occasionally accompanied by scrotal swelling with the appearance of rickettsia in the tunica vaginalis, it was necessary to determine the relationship of the infection to known strains of Rocky Mountain spotted fever by immunity tests. Because of the clinical and epidemiologic data at hand, it was unnecessary to test it with typhus fever as recommended elsewhere.

Blood was taken 3 weeks after recovery from one of the animals infected with the agent isolated from ticks. The serum was incubated for one-half hour at room temperature with 0.5 c.c. of serum taken from an animal sick with the Bitter Root Valley (western) variety of spotted fever. The mixture was then injected intraperitoneally into one healthy guinea pig and another animal used as a control was given 0.5 c.c. of serum from the animal sick with the Bitter Root Valley spotted fever. The animal injected with the mixture of convalescent serum and "infected" serum remained well without any elevation of temperature, while the control animal injected with the unneutralized serum died after a characteristic course of western Rocky Mountain spotted fever.

In order to establish further the specific pro-

tective power of the serum of guinea pigs recovering from infection with our strain, convalescent serum was obtained from one of our recovered animals and allowed to incubate at room temperature for one-half hour with varying amounts of serum containing the virus of the Bitter Root strain in the following dilutions:

0.5 c.c. of convalescent serum + 0.1 c.c. infected Bitter Root serum.

0.5 c.c. of convalescent serum + 0.25 c.c. infected Bitter Root serum.

0.5 c.c. of convalescent serum + 0.50 c.c. infected Bitter Root serum.

None of the animals injected with this mixture gave evidence of infection, while each animal injected with similar amounts of serum containing virus alone developed spotted fever and died. The "convalescent" serum apparently neutralized the virus specifically and prevented infection.

Similar experiments were made using our strain and its homologous "convalescent" serum for test. Each of the animals injected with neutralized virus remained well, while all of those injected with serum containing virus alone became ill with spotted fever characteristic of our strain.

Similar results were reported by Rolla E. Dyer, M.D., of the National Institute of Health, to whom our strain was sent. Complete cross

immunity was shown between our strain and a Bitter Root Valley strain of Rocky Mountain spotted fever as well as with 2 other eastern strains of Rocky Mountain spotted fever. No cross immunity was demonstrated between this strain and the Breinl (epidemic) typhus strain or with the Wilmington (endemic) typhus strain.

Comment.—Our studies show that a variety of Rocky Mountain spotted fever endemic in eastern Pennsylvania is similar to the so-called "eastern" variety of Rocky Mountain spotted fever. Out of 400 engorged ticks removed from dogs from 18 localities near Philadelphia only one lot appeared to be infected with the causative rickettsia, which represents approximately the proportion of infected ticks found by others elsewhere. Because of this apparently low rate of infectivity, we felt that there need be no undue alarm over the contagion of spotted fever in the spring or summer months provided reasonable care is taken to keep ticks off the body. Engorged ticks should not be plucked from animals without adequate precaution. We also believe that the presence in Pennsylvania of a form of spotted fever different from the kind found in the west precludes the argument that the disease was brought here by cattle or rabbits sent from the west. Much evidence favors the view that the disease is perennially endemic wherever rodents and ticks reside.

TRIAL POSTPONED INDEFINITELY

Referring to the trial of the American Medical Association and certain of its officials for alleged violation of the Sherman Anti-Trust Laws, scheduled to start in Washington, D. C., on Oct. 21, *The Journal* of the association in its Oct. 26 issue says:

"According to an announcement issued in Washington on Oct. 17 by United States Attorney Edward M. Curran, Justice James W. Morris, who is presiding in Criminal Court No. 2 of the District Court, disqualified himself from sitting on the case because of his former connection with the Justice Department as assistant attorney general. Justice F. Dickinson Letts, now presiding in Court No. 1, is in the middle of a first-degree murder case and has a heavy assignment for the next few weeks. 'Since no third criminal court is available at the present time,' said United States Attorney Edward M. Curran, 'I have taken the case off the assignment and it will be set down for trial in the future on a date agreeable to both the government and the defense.'

"This postponement will release the officials of the association, therefore, to a continuation of their work in the headquarters office and in other capacities so essential particularly at the present time."

SPECIALISTS ARE WASTED IN ADMINISTRATIVE POSTS

Physicians practice medicine, hospitals do not; likewise hospital administrators practice administration and clinicians do not, was the gist of the forceful address by Benjamin W. Black, M.D., in his presidential address at the annual session of the American Hospital Association, held in Boston in September.

In the previous war, Dr. Black stated, there were many distinguished clinicians who were wasted in administrative posts where they had little or no opportunity to practice the specialty in which they were masters, and yet they performed their administrative tasks poorly because they were largely untrained for them.

"The mere fact that a physician has a commission in the army, even the regular establishment, does not qualify him as an administrator, unless he has had administrative experience," Dr. Black declared.

Today war is made against women and children and other noncombatants, Dr. Black stated, and the important problem is to provide for their health and medical care. We need a centrally planned program for the care of the whole health problem of the population.—*Modern Hospital*, October, 1940.

The Mechanism of Postmetrazol Gibbus

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RESEARCH in the psychiatric field must increase if a better understanding and treatment are to be developed for mental illness. However, it has been my experience that during the course of investigative study numerous apparently nonessential and useless by-paths have to be traced, any one of which may hold valuable data or actually solve the essential problem which seems unrelated.

A more general definition of the term "gibbus" would be "hump." This condition, to a greater or less degree, has been noted in approximately 50 per cent of all patients who have been subjected to shock therapy by the use of metrazol, and examined radiographically by me. My first radiographic observation of this condition was made in March, 1938. Needless to say, I was unable to account radiographically for the vertebral compression noted at that time, although I was not willing to accept the hypothesis of "divine intercession."

The radiographic changes seen in these plates have been grouped into 4 divisions:

Group I.—Consisting of a lipping of the vertebral body, with sclerosis.

Group II.—Consisting of those cases which showed lipping, sclerosis, and semilunar curving of the ventral margin of the vertebral body.

Group III.—Consisting of those cases in which there is a definite, and almost a massive, collapse of the vertebral body, with or without sclerosis.

Group IV.—The severe or extreme changes which may result from a combination of one or several of the previous groups. It is my impression that there is no correlation demonstrable between the number of convulsive seizures induced by metrazol and the extent or degree of the pathologic changes noted radiographically in the vertebral bodies. Basil T. Bennett, Jr., and Charles P. Fitzpatrick have expressed similar opinions. The anatomic location of these changes has been described by Phillip Polatin and his associates in a paper entitled "Vertebral Fractures

Produced by Metrazol-Induced Convulsions" in the *Journal of the A. M. A.*, Apr. 29, 1939. Harold A. Palmer's grouping does not separate sufficiently the radiographic entities.

The illustrations of this classification of the vertebral changes following metrazol are presented (Figs. 1, 2, 3, 4), not with a wish to advocate, discourage, or evaluate the use of metrazol as a means of shock therapy among the psychoses. However, this evidence of osseous change is submitted to contradict the general impression which some may have gained as to the complete harmlessness of the drug.

Histologic Observations

During the course of a routine necropsy upon a white female patient of 26 years, who died from a pneumococcic pneumonia, I secured the specimen of the fifth and sixth dorsal vertebrae from which the illustrations are prepared. She had received a few injections of metrazol one



Fig. 1 (Group I). Illustrating the sclerosis, lipping, and irregularity of the margins of the vertebral bodies after metrazol therapy.

From the Joseph Thomas Laboratory of Pathology, Norristown State Hospital, and the Department of Neurology of Jefferson Medical College of Philadelphia.

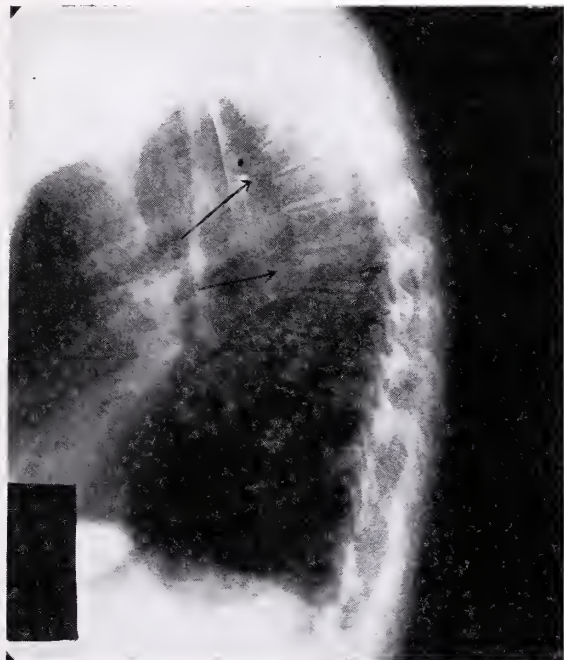


Fig. 2 (Group II). Illustrating the sclerosis, lipping, and irregularity of the margins of the vertebral bodies, with semilunar curving of their ventral borders and moderate compression, following metrazol.

year before death as a form of shock therapy for dementia praecox. The therapy was abandoned in this case because of the patient's complaint of pain. The compression of the ventral margin of the vertebral body of the fifth dorsal vertebra was recognized grossly at the time of the necropsy, the narrowing of the ventral mar-



Fig. 3 (Group III). Illustrating marked compression fracture with sclerosis and an associated rib fracture following metrazol.

gin being sufficient, and of such a degree, as to cause it to stand out when the outlines of the adjacent thoracic vertebra were observed.

Examination of the gross section (Fig. 5) would lead one to appreciate the compression of the vertebral body, as well as the disruption of the adjacent intervertebral disk. Histologically, there is seen, in addition to a hyperplastic myeloid type of marrow which is well vascularized and shows areas of hemorrhage and necrosis, definite globoid particles of calcareous material which appear to be distributed in a heterogeneous pattern and without constant relationship to the bone trabeculae. Frequently, trabeculae are seen penetrating a segment of the calcareous deposit. Superficial observation might lead to the belief

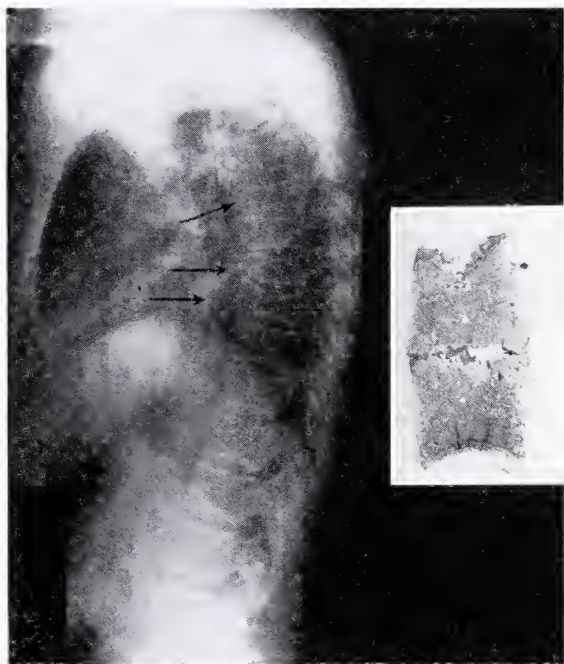


Fig. 4 (Group IV). Illustrating multiple marked compression fractures of the vertebral bodies with sclerosis, intense lipping, and distortion of the ventral margins following metrazol.

that these were artefacts, but this change is most marked at the point where the intervertebral cartilage is invaginating the superior border of the vertebral body (Schmorl's node), from which point the illustration with highest magnification was prepared (Fig. 6).

The architectural normality and supporting strength of the vertebral body is derived from the bone trabeculae which enter into its formation. Disruption of this architectural pattern may follow an alteration in the normal physiology of the bone marrow. This may occur from toxic, hormonal, bacteriologic, or traumatic agents. That a convulsion of itself may be productive of



Fig. 5. Histologic preparation of fifth (top) and sixth (lower) dorsal vertebrae and intervertebral cartilages. Illustrating the semilunar cupping of the vertebral body and cartilage and fragmentation of the intervertebral disk. Calcification of the areas of necrosis within the vertebral body appear as black deposits.

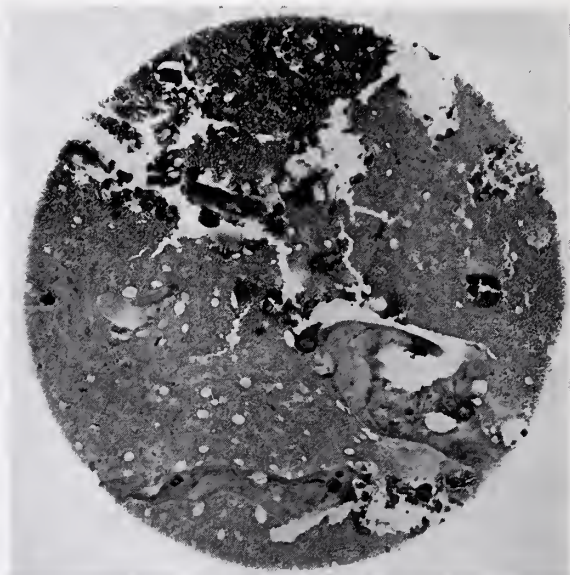


Fig. 6. Enlargement of the area adjacent to the apex of the concavity on the superior border of the fifth dorsal vertebra, illustrating the heterogeneous deposits of calcific material, necrosis, vascularity, and cellularity of the vertebral body, and trabecular fragmentation, with nonosteoclastic atrophy.

such a change has been reported by O. Theodore Roberg, Jr.

E. A. Strecker and his associates have directed attention to the occurrence of subarachnoid hemorrhages in experimental animals following metrazol. I have noted the development of a meningitic type of colloidal gold curve after metrazol therapy. I have observed microscopic focal hemorrhages within the pons of a post-metrazol case, but could not consider it specific because of associated pathology in the posterior fossa.

From the histologic specimen presented, it appears that fracture, focal hemorrhages, and necrosis, with subsequent calcification (roentgen-ray sclerosis), nonosteoclastic atrophy, and collapse, has been the course of events within the vertebral body. Apparently during the period when hemorrhages and necrosis were widespread, as a result of the convulsive trauma, the supportive strength of the vertebral body was lowered. The convulsive seizures have resulted in a rupture of the disk and a fragmentation of the bone trabeculae. Subsequent compression of

the vertebral body occurred due to the inability of such a fragile architecture to support the normal body weight.

It is well known that the changes which have been observed radiographically do not occur acutely. The time interval would appear to permit such physicochemical alterations to occur within the vertebral body through the medium of the already sluggish circulation of the bone marrow, which may have been further handicapped by the circulatory insufficiency incident to the psychosis.

Summary

1. A classification of the radiographic alterations in the vertebral bodies which occur following metrazol therapy is suggested and illustrated.
2. Histologic alterations in the bone marrow from the fifth dorsal vertebra of a case which conformed to Group II of this classification are described.
3. A pathologic-physiologic mechanism is proposed to account for the radiographic alterations observed. I am inclined to favor this explanation of the changes which produce the postmetrazol gibbus.

I wish to acknowledge the technical assistance of Sylvia Wasserman, and Martha Javier Fry, and to thank Dr. Philip Custer of the Presbyterian Hospital, Philadelphia, for his courtesy in examining the histologic bone marrow preparation; and to express my appreciation to Mr. Robert Perrine, of the DuPont Film Manufacturing Corporation, for the roentgen-ray reductions.

Cardiac Thrombi Complicating Mitral Stenosis with Pulmonary Tuberculosis in a Miner

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IN THE literature we found but few cases of ante mortem heart thrombi. In addition, the case here discussed presents another unusual finding; namely, mitral stenosis associated with pulmonary tuberculosis.

Case Report

White Haven Sanatorium case. White male, aged 42, married, 4 children, 6 to 12 years, all well except youngest who has had cervical adenitis, etiology unknown. Entered sanatorium July 1, 1933; left against advice Aug. 8, 1933; readmitted Dec. 24, 1938; died May 29, 1939. Service of Dr. Hetherington. Laborer and miner for 7 years using jackhammer 2 months; roofer one year. Mother died of apoplexy. Previous diseases, chickenpox and measles; St. Vitus's dance at age 13; influenza in 1918; patient at Mont Alto from January to May, 1932. Chief complaint, "streaking" (now severe), night sweats, occasional chills, 4-ounce expectoration, hemoptysis (4 ounces), palpitation of the heart, and loss of weight.

Physical Examination: Markedly emaciated. No abnormalities of skin except for tattoo marks on upper extremities. Eyes: Pupils equal, round, and react to light and accommodation. Eyegrounds negative. Head negative. No lymphadenopathy of cervical, axillary, or inguinal glands. Marked depressions above both clavicles. Extremities negative. No disease of bones or of central nervous system. Abdomen negative.

Cardiovascular Examination: Pulse regular and of good volume. Moderate sclerosis of radial vessels. Blood pressure 100/84. Apex beat in sixth interspace outside mid-clavicular line. Diastolic thrill over apex. Rhythm regular. Presystolic rumble crescendo in nature ending in a snappy first sound. The murmur is transmitted to the axilla and is loud.

Pulmonary Examination: Diffuse tuberculous infiltration of both lungs. On Jan. 24, 1939, cardiovascular examination by attending cardiologist (J. F. G.) revealed slight precordial bulging, and a wavy pulsation over entire precordium. The base of heart was at third rib. Left border $11\frac{1}{2}$ cm. to left of midsternal line. Apex beat was in sixth intercostal space $10\frac{1}{2}$ cm. to left of midsternal line. Right border at right parasternal margin. Patient was having attacks of paroxysmal

tachycardia which were stopped by carotid pressure. As carotid pressure was released, episodes of sinus tachycardia alternating with a slow rate, with frequent extrasystoles, occurred. This was followed by tachycardia with occasional sinus pauses.

Electrocardiographic examination revealed: Auricular rate, 100; ventricular rate, 100; P R interval, .16 seconds; Q R S interval, .08 seconds; R T interval, 20 seconds.

Lead I: The main deflection is downward. There is low amplitude of T.

Lead II: T is diphasic. P is high and "peaked."

Lead III: The main deflection is upward. There is notching of the upstroke of R 1. T is inverted. The S T interval in the first 3 leads is normal.

Lead IV: (CF₄) S T takes off above the iso-electric line and is of "coronary" type, ending in inverted

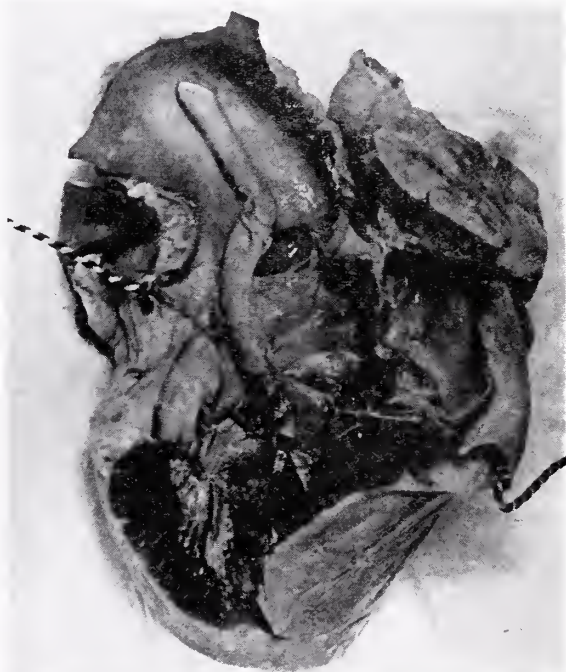


Fig. 1. The thrombus extends from the apex of the left ventricle up into the aorta. Note the thickened mitral valve between the left auricle and left ventricle.

T wave. Main deflection is downward. There is no Q wave. In CF_5 and CF_6 the main deflection is downward. P and T are inverted in these last 2 leads and S T takes off above iso-electric level and is of "coronary" type. In CF_1 and CF_2 , P is "peaked" and markedly inverted. Otherwise these leads are normal. In CF_3 , P is inverted, T is upright, and S T takes off above iso-electric level. Main deflection is downward in this lead and markedly notched. These features of fourth lead electrocardiogram are supposed to be deviations from normal.

Diagnosis: Right ventricular preponderance; mitral stenosis.

The clinicopathologic studies carried out on the patient were: Complete blood count, which showed hemoglobin 102 per cent; red blood cells, 4,650,000; white blood cells, 12,800; polymorphonuclear leukocytes, 58; lymphocytes, 25; monocytes, 17. Urinalysis and Mosenthal specific gravity fixation tests were negative. Examination of sputum was consistently positive for tubercle bacilli. The blood sedimentation rate was 24 mm. in one hour and showed a vertical curve. Vital capacity was 2100 c.c. (normal 4200 c.c.). Roentgen-ray examination showed, on right side, a large pneumoconiotic consolidation; on left side, increased density with 3 cavities.

Necropsy, 3 hours after death.

Pericardium.—Sac large, but contained normal quantity of fluid; pleuropericardial adhesion on the right side.

Heart.—Dilated and enlarged, left border extending to left just beyond mid-clavicular line. Right border of heart was about one-half inch to right of parasternal edge. Heart weighed 390 grams and was not quite as firm as the normal consistency. Coronary vessels were normal. Aorta was slightly enlarged, as was also the pulmonary artery. Extending up through the aorta from left ventricle was a narrow, cylindrical, firm piece of tissue which passed through the aortic ring, the aortic valve being normal. This tissue measured 13 cm. in length and 2 cm. in diameter. Opening the left heart, the tissue was adherent to myocardium—an ante mortem thrombus (see Fig. 1). The left auricle was tremendously dilated, about the size of an orange. The mitral valve exhibited marked buttonhole type of stenosis, so that even the little finger could not pass through. The ring was markedly thickened and nodular. The endocardium on the auricular side presented a small, ulcerative lesion. The left ventricle, except for the presence of the thrombus, was normal.

Right heart showed normal-sized auricle. Valves were normal. Right ventricle was normal except for another thrombus firmly adherent to myocardial wall and extending up into pulmonary artery. This likewise was a long, narrow, firm cylindrical thrombus with fan-shaped attachment to myocardial wall. It measured 9 cm. in length by 1.5 cm. in diameter (see Fig. 2).

Lungs presented stage III anthracosilicosis with disseminated active tuberculosis.

Right kidney showed old fibrotic scar, probably from old embolic episode which led to infarction.

There was also present a tuberculous enteritis near the ileocecal valve.

Discussion

In reading the literature, we did not find mention of one case of thrombus in both ventricles of the heart. J. L. Abramson, in 1924, reported

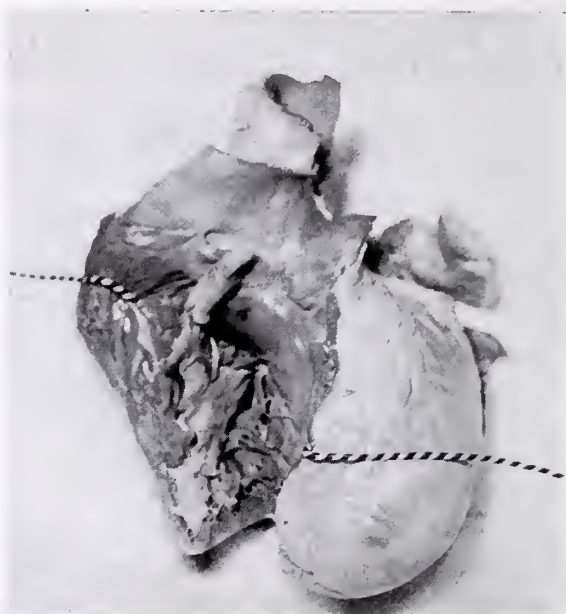


Fig. 2. The thrombus extends from the apex of the right ventricle up through the pulmonary valves.

on 24 cases of ball thrombus in the literature. In every instance severe mitral stenosis was present. He reports that French described a case of ball thrombus in the right ventricle. We believe, in view of his findings, that if any type of thrombus was to be expected, it would be the "ball" type, and should have been found in the left auricle. Yet, contrary to expectation, ours was not of the ball, but of the pedunculated type, and was found in both ventricles.

Babcock, quoted by Norris and Landis, remarked that thrombi in one of the cardiac chambers are even more rare than tumors of the heart. He describes 2 types: (1) pedunculated, some of which are true tumors, and (2) ball thrombi.

In 33 cases of thrombi the location was as follows: left auricle, 25; right auricle, 4; left ventricle, 4. The pedunculated or polypoid type are covered with a layer of what is believed by some to be a continuation of the endothelium.

NOTE: He reports none in both ventricular chambers.

J. Burton Cleland found ante mortem clots present in the chambers of the heart in 2.3 per cent of 3000 post mortem examinations. In 40 cases clots were present in the auricles, and in 30, on the ventricular walls.

Ante mortem clots in the auricles were present on the right side in 23 cases and on the left side in 8; on both sides in 8; and in the right auricle and on the ventricular wall in one.

Hypertrophy and dilatation of the heart not due to valvular disease were the commonest as-

sociated conditions (22 cases of 40). Mitral disease was responsible for 10. Two cases occurred in the course of diphtheria, 2 in chronic pulmonary tuberculosis. Vegetations in the tricuspid valve were seen in one case, hypostatic pneumonia in 2 cases, and locomotor ataxia in one.

The most common cause of ante mortem clots on ventricular walls is coronary disease, followed next by hypertrophy and dilatation of the heart not due to valvular disease.

Three examples of ball thrombi in the left auricle were all associated with mitral stenosis.

W. B. Zinserling reports one case of thrombotic deposits in the left auricle and another case of thrombus in the left ventricle of a cylindrical nature measuring 7 cm. long by 3 cm. in diameter. It was smooth and white in color.

The association of pulmonary tuberculosis in mitral stenosis has been a point of discussion since Rokitansky many years ago remarked that the presence of the one rules out the other.

In 8154 necropsied patients dying of tuberculosis, Norris found valvular disease in 3.6 per cent. Von Kryger found 0.9 per cent cardiac disease in 1100 necropsies on tuberculous patients.

Clinical valvular disease is associated with tuberculosis in 1 per cent of collected cases, although statistics quoted in the literature vary from 0.1 per cent to 6.4 per cent.

In 2113 cases at the Phipps Institute there were found 13 cases of mitral stenosis and 9 with a double mitral lesion (0.16 per cent).

Bronfin and Simon, presenting their observations on cardiac lesions in 1928, quote Anders as having seen 1.2 per cent incidence of valvular disease in tuberculosis in 10,628 necropsies.

P. D. White quotes a series of 300 cases of mitral stenosis with but one case of pulmonary tuberculosis, a percentage of 0.3 per cent.

Montenegro, in 1919, reported one case of mitral stenosis in 20,000 cases of pulmonary tuberculosis. D. T. Ditchburn, in reporting one case, makes special note of this.

Pulmonary tuberculosis is fairly common in valvular heart disease, but not in marked mitral

stenosis. L. F. Bishop, Jr., and A. Babey, however, in a critical review at the Bellevue Hospital, New York, came to the conclusion that the association of mitral stenosis and pulmonary tuberculosis was not rare; 9091 necropsies were reviewed; 140 cases of mitral stenosis were noted and, of these, 6 proven cases of tuberculosis were found.

Sobel and Clements¹ quote Fishberg as saying he makes it a "rule never to diagnose tuberculosis in one showing signs of disease of the mitral valve and cardiac hypertrophy or dilatation, irrespective of the physical signs elicited while examining the lungs, unless the sputum reveals tubercle bacilli."

E. Romberg has shown also that in the presence of mitral stenosis with decompensation pulmonary tuberculosis is rare.

Gloyne and Shiskin² note that the majority of writers on this subject have found "the association of the two to be rare, at any rate at necropsy." Necropsy records of Victoria Park for 16 years (1921-1937) contain 121 cases of mitral stenosis. Only one case of fibrocasseous tuberculosis occurred.

Conclusion

The case described is, in our opinion, one of great interest. Our reason for considering this to be true is because of the presence of 2 ante mortem thrombi, each having an unusual site of origin, the large size of the thrombi, the fact that in each instance they extended in drawn-out cylindrical form from a ventricle through the aortic valve into the aorta in one case, and in the other case through the pulmonary valve into the pulmonary artery. Nowhere in the literature have we been able to find a similar case. The occurrence of active pulmonary tuberculosis in severe mitral stenosis is generally conceded to be rare.

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The Diagnosis and Treatment of Pelvic Endometriosis

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THE term endometriosis is applied to a condition peculiar to women, which consists of aberrant adenomatous lesions possessing histologic and physiologic properties similar to those of the endometrium. Generally these lesions occur in the pelvic cavity to involve one or several of the genital organs or the contiguous pelvic viscera, although they have been reported to appear in the gallbladder, the lungs, and even in the arm.

Of the various theories that have been advanced concerning the origin of this condition, none explain the presence of the lesions in its many different sites. The most tenable and generally accepted explanation for pelvic endometriosis is the trans-tubal implantation theory of Sampson. He pictured the regurgitation of menstrual débris through the fallopian tubes and its implantation upon the ovaries or other pelvic viscera. Each implant becomes a small island of endometrium to menstruate into itself and to react to pregnancy and the menopause just as normally placed endometrium responds.

Growth Characteristics

The ovaries are considered by Sampson to be "incubators or hot houses" for the implants. The ovarian lesions are frequent seats of minute rupture with general dissemination of the cyst contents throughout the pelvic cavity—each new seed to grow into another menstruating organ of its own accord. The proclivity of endometriosis for widespread dissemination is suggestive of malignancy, but its slow growth, limited invasive properties, and dependence upon ovarian stimulation render it a benign process. Despite the limitations of benignity, no other nonmalignant growth is so capable of widespread involvement as is endometriosis. In a recent study of 307 patients (Table I) with this condition, a total of 343 major lesions were found, and innumerable minor lesions also were present. The

ovaries are the most frequent sites of endometriosis, for two-thirds of the major lesions of endometriosis are located in one or both of these glands. The growths range from tiny red or purple nodules that appear on the outer surface of the organ to cysts that occupy a greater part or all of the ovary to produce tumors varying in size from English walnuts to cocoanuts.

TABLE I
LOCATION OF MAJOR LESIONS

Ovary:	Per cent
Unilateral	36.0
Bilateral	28.0
Cul-de-sac	25.0
Fallopian tubes	3.2
Tubal stumps	1.1
External surface of uterus	2.0
Broad ligament	1.4
Rectovaginal septum	1.1
Umbilicus	1.1
Miscellaneous	1.1

Widespread infiltration of the cul-de-sac occurs in at least one-fourth of the cases—often in association with endometriosis in other situations. Cul-de-sac transplants vary from 2 to 3 millimeters to a centimeter in diameter. Usually they are multiple, producing extensive nodulation or beading which is most easily demonstrated by rectal palpation. The process may extend into the rectovaginal septum with the production of nodular infiltration similar to that of pelvic or rectal malignancy, but endometriosis does not infiltrate the rectal mucous membrane as does malignancy. In cul-de-sac endometriosis the posterior vaginal vault occasionally contains tiny purple or bluish nodules which seem to be imbedded in the vaginal mucous membrane. These nodules change in color during the different phases of the menstrual cycle, and their discovery is conclusively indicative of this condition.

The fallopian tubes are moderately frequent sites of endometriosis, and endometriomata of tubal stumps following salpingectomy or tubal ligation are not unusual. Other areas of implantation are the external surface of the uterus, the broad ligament, the umbilicus, the cervix,

Read before the Section on Obstetrics and Gynecology of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 2, 1940.

From the Department of Obstetrics and Gynecology, Hospital of the University of Pennsylvania.

and laparotomy scars. Umbilical endometriosis usually occurs with the same condition in other locations, particularly the cul-de-sac. The umbilical lesions are small irregular tumors which change in color and consistency during the different phases of the menstrual cycle. Frequently the navel discharges bloody fluid at the time of menstruation. Bladder endometriosis often is associated with extensive cul-de-sac infiltration. Vesical transplants invade the muscular coats but do not perforate the mucosa. The cystoscopic appearance is that of one or more small projections which vary in color from pale blue to deep purple, depending upon the phase of menstrual activity. They are situated above the interureteric ridge at the base of the bladder and each is surrounded by an area of edema, but no ulceration is present. The appendix is the occasional seat of this condition and any portion of the intestinal tract which lies in or near the pelvic cavity is subject to it. The most frequent site is the sigmoid and rectum. Extensive involvement of the lower intestine with widespread adhesions may occur to result in partial or complete obstruction either from acute adherent angulation or actual impingement upon the lumen of the intestine. The fact that the mucous membrane never is penetrated differentiates rectal and sigmoidal endometriosis from malignancy.

Associated Lesions

A characteristic feature of endometriosis is its common association with other pelvic pathology which often overshadows both the symptoms and physical findings of the adenomata. Endometriosis occurs alone in only 20 per cent of the cases, while the remainder show one or more complicating pelvic lesions. Uterine myomata predominate as the associated pathology, for practically two-thirds of the patients with endometriosis have fibroids. Varying forms of adnexal inflammation, usually consisting of perisalpingitis or perioophoritis, occur in one-fifth of the cases. Endosalpingitis with tubal occlusion is rare and the fimbriated extremities of the tubes generally are open.

Uterine retrodisplacement, because of its obstructive possibilities, is considered to be an active etiologic factor in pelvic endometriosis. This complication is most common in the younger patients who present no other likely anatomic cause for the endometriosis.

Uterine adenomyomata are considered to be manifestations of endometriosis by some authors. We believe that they are adenomatous growths which result from endometrial diverticula or embryonic rests and not true lesions of endo-

metriosis, although the two frequently are associated.

The low incidence of reported cervical stenosis in endometriosis probably does not indicate its true occurrence, for attempts to demonstrate this condition often are omitted at the time of operation. Other occasional allied conditions are benign or malignant ovarian tumors, umbilical endometriosis, tuberculous salpingitis or endometritis, and vesical transplants.

Age Distribution

Fundamentally, endometriosis is a disease of the menstrual life. The youngest patient whom we have seen was 18 and the oldest 62. The incidence rapidly increases from 19 per cent in the third decade to 41 per cent in the fourth, with a drop of 37 per cent in the fifth (Table II).

TABLE II
AGE INCIDENCE

	<i>Per cent</i>
Less than 20 years	0.25
20-30 years	19.0
30-40 years	41.0
40-50 years	37.5
50-60 years	2.0
More than 60 years	0.25

More than three-fourths of the patients are between the ages of 30 and 50. Occasionally endometriosis is seen after the menopause, probably appearing as a hang-over from the menstrual era. The possibility of some extra-ovarian stimulation must be considered, however, in the light of numerous recent demonstrations of estrogenic activity in postmenopausal blood and urine. Furthermore, it has been suggested that some endometriomata may assume semimalignant characteristics and continue to grow following withdrawal of ovarian stimulation.

Chief Complaints

Since endometriosis is accompanied by other pelvic pathology in the majority of instances, no characteristic group of symptoms can be ascribed to its presence. Because of the associated lesions and the frequent wide dissemination of the process, multiple gynecologic disturbances usually exist. These alterations fall into 3 general groups—local discomfort, abnormal genital physiology, and dysfunction of contiguous viscera.

Intermenstrual pelvic discomfort or pain occurs in 4 out of 10 cases (Table III). This symptom varies from simple lower abdominal uneasiness, soreness, or bearing-down sensation to attacks of acute colicky pain, all of which are intensified by the menstrual periods. Severe dysmenorrhea occurs in every third case. The

TABLE III
CHIEF COMPLAINTS

	<i>Per cent</i>
Abnormal menstrual period	56.0
Intermenstrual discomfort and pain	40.0
Dysmenorrhea	35.0
Backache	21.0
Dysfunction of contiguous organs	17.4
Pelvic tumor	12.5
Marital and fertility difficulties	6.6
Miscellaneous	7.5

menstrual pain usually is acquired or markedly aggravated with advancing years. Lumbar or sacral backache is seen commonly, to be described as a boring pain which becomes crippling with each menstrual period.

Abnormal physiology appears as menstrual alterations or disturbances in marital relations and fertility. More than one-half of the patients menstruate abnormally in the form of menorrhagia, metrorrhagia, or a combination of the two. Other disturbances consist of dyspareunia, infertility, and repeated abortions. Approximately 4 out of 10 married patients with endometriosis never become pregnant, and should pregnancy occur, the likelihood of premature termination is increased greatly.

Disturbed function of the bladder or rectum occurs frequently. The rectal disorders consist of pressure, pain, dyschesia, increasing constipation, and menstrual diarrhea. Rectal bleeding is absent and hematuria is not a symptom of bladder involvement. The customary bladder symptoms are marked urgency, frequency, and dysuria. Both the bladder and rectal complaints are tremendously increased with each menstrual period.

Diagnosis

The diagnosis of pelvic endometriosis is not a simple matter. In a recent study of approximately 300 patients with endometriosis the condition was not diagnosed preoperatively in almost two-thirds of the cases. The reasons for this failure are the lack of a characteristic symptomatology and, of more importance, the frequent occurrence of other pelvic lesions which overshadow the presence of endometriosis.

Since this condition produces no characteristic symptoms, the detection of typical pelvic lesions offers the most reliable diagnostic measure. The identification of densely adherent nodular masses of varying size in the ovarian areas or the cul-de-sac, without evidence of infection, is highly suggestive of endometriosis. The nodularity is most closely simulated by that of the transplants from ovarian malignancy, and its possibility should always be considered in the differential diagnosis.

A concise reproduction of the usual clinical picture of endometriosis may be presented in the following terms: It is most likely to be found in the patient of early middle age with no children who complains of lower abdominal pain with acquired menorrhagia and dysmenorrhea. Dysfunction of the bladder and rectum and low backache, which are intensified by menstruation, are common occurrences. It is associated with other pelvic lesions, usually myomata, 4 out of 5 times. In the absence of pelvic inflammation and ovarian carcinoma, the presence of extensive cul-de-sac nodulation and densely adherent cystic ovaries usually means endometriosis, regardless of any other pelvic pathology which might also be present.

Treatment

Important factors in the choice of treatment are the patient's age, the severity of the symptoms, and the removability of the major lesions. With reasonable certainty as to diagnosis, in the absence of intolerable symptoms if pronounced ovarian enlargement or other pelvic pathology does not necessitate active treatment, routine observation is feasible and safe. Endometriosis which requires treatment in young patients demands careful surgical consideration, with conservatism as the guiding principle. In a recent series only 14 per cent of the patients in the third decade were subjected to radical therapy, that is, complete ablation of ovarian function, and 36 per cent of the 30 to 40-year groups were treated in this manner (Table IV). The incidence of radical therapy in the older groups, where ovarian conservation is less important, increased to 70 per cent.

TABLE IV
TREATMENT ACCORDING TO AGE

Age	-20	20-30	30-40	40-50	50-60	60-70
Radical	0%	14%	36%	70%	72%	100%
Conservative	100%	86%	64%	30%	28%	0%

In all age groups isolated extrapelvic lesions which are readily removable should be treated by extirpation. In the event of widely disseminated invasive pelvic growths, which render local removal impractical, the alternatives are extensive surgical intervention or irradiation.

Since ovarian endometriomata usually are removable, the preferred treatment for this condition is surgical. Bilateral oophorectomy is necessary in roughly 50 per cent, and in the remainder it is possible to conserve one ovary and often the uterus. In young women, for whom conservation of menstrual and procreative function is so important, unilateral oophorectomy with resection or cautery destruction of transplants or

small endometrial cysts in the other ovary frequently can be performed. This has been done many times, even in the presence of cul-de-sac transplants, and its importance and feasibility in the surgical treatment of endometriosis cannot be too strongly emphasized.

Endometriosis of the cul-de-sac or rectovaginal septum may be treated by observation, irradiation, or surgery. Because of its slow growth, with no doubt as to diagnosis, active treatment is indicated only in the presence of pronounced symptoms. Of the patients who require therapy, three-fourths are treated by surgery and one-fourth by irradiation. In the older patients surgical or irradiation castration is inevitably curative. The majority of the younger patients with cul-de-sac infiltration who are operated upon should receive the benefit of conservative procedures. Of those treated by irradiation, the preponderance requires castration doses. A small group, however, consisting of young women with cul-de-sac transplants and no massive ovarian involvement who complain of menorrhagia or dysmenorrhea will respond satisfactorily to reduced doses of intra-uterine radium.

Results of Treatment

Evaluation of the therapeutic results in endometriosis involves consideration of the following factors: the morbidity and mortality, the unpleasant late postoperative effects, the relief of symptoms, the preservation of genital functions, and the necessity for subsequent therapy. The operative treatment frequently is attended by considerable technical difficulty because of dense adhesions between the lesions and the contiguous pelvic structures. Therefore, the postoperative morbidity exceeds that following more clean-cut pelvic surgical procedures and an occasional mortality is inevitable.

The development of unhappy late postoperative reactions follows radical therapy. Our belief in the absolute value of ovarian conservation and, whenever possible, of menstrual and procreative preservation is too deeply engrained to be modified. Relief of symptoms from pelvic endometriosis is assured by complete ovarian ablation through the agency of surgery or irradiation. While such therapy is justifiable in the later years of life, in young women it is to be avoided if possible.

Furthermore, the results of conservatism in the treatment of endometriosis justify its continuation. By grouping the patients who are treated conservatively according to procedure, either surgical or irradiative, the results are seen at a glance (Table V). In the surgical group 81 per cent are completely relieved of symptoms,

TABLE V
RESULTS OF CONSERVATIVE TREATMENT

<i>Results</i>	<i>Surgical</i>	<i>Irradiation</i>
Complete relief	81%	80%
Partial relief	14%	20%
Further growth of lesions	7%	40%
Further treatment necessary..	8%	0%
Subsequent pregnancies	9%	0%

as are 80 per cent of those treated by irradiation. Subsequent treatment is necessary in 8 per cent of the surgical group, but justification is found in 13 (9 per cent) subsequent successful pregnancies and in freedom from severe menopausal reactions.

Summary and Conclusions

Pelvic endometriosis is characterized by the potential multiplicity of its sites of invasion. The majority of the lesions occur in the ovaries and the cul-de-sac, but any of the pelvic structures or the contiguous viscera may be affected.

It is a disease of middle and late menstrual life, with an incidence of approximately 80 per cent between the fourth and sixth decades.

Additional pelvic pathology accompanies endometriosis in four-fifths of the cases to obscure its presence and to cloud the diagnostic picture.

The chief symptoms of endometriosis are those of local pain, alterations in the menstrual and reproductive processes, and dysfunction of the contiguous organs.

The treatment, which may be that of routine observation, surgical intervention, or irradiation, depends upon the severity of the symptoms, the patient's age, and the removability of the major lesions.

Conservatism, particularly in young patients, with preservation of ovarian and, if possible, menstrual and procreative functions is justified by the results.

ABSTRACT OF DISCUSSION

LEWIS C. SCHEFFEY (Philadelphia): Dr. Payne has presented a concise and thorough study of a relatively large group of patients with pelvic endometriosis, and I am happy to have the privilege of discussing his paper.

He has stressed the widespread pathology encountered and has discussed fully the resultant pathology upon which the diagnosis depends. His treatment has been rational and is based upon individualization, which adds much to its evaluation.

It is probably true that no one theory of causation can explain the multiplicity of lesions which endometriosis presents, but we can see no practical reason for not placing adenomyomata of the uterine fundus (or direct endometriosis) in the same general category with endometrial implants found elsewhere (or indirect endometriosis). The location of the major lesions noted in Dr. Payne's series is in general accord with the observations of others and coincides with our personal experience.

Within the past few months we have encountered endometriosis of the terminal ileum, causing incomplete obstruction, in association with fibromyomata of the uterus and endometriosis of the ovary. A very striking situation was seen by us a few years ago when endometriosis of the appendix was found histologically in a case of periappendicitis with perforation and abscess formation in connection with ovarian and pelvic endometriosis.

As emphasized by Dr. Payne, the diagnosis is more frequently made at operation than preoperatively. Associated or simulating pelvic lesions confuse the picture, both symptomatically and upon pelvic examination. It is well to bear in mind, however, that whenever a patient in the reproductive period presents evidence of chronic pelvic inflammatory disease without the history or definite evidence of gonorrheal or postabortal infection, then pelvic endometriosis should be thought of as a very probable diagnosis.

We are also impressed with the possibility that pelvic endometriosis is the causative lesion in a certain number of younger patients exhibiting dysmenorrhea and irregular menstruation, whose indisposition is regarded as functional in nature, but who fail to respond to simple methods of medical and hygienic treatment. On the other hand, we are sometimes surprised to find evidence suggestive of pelvic endometriosis in the routine pelvic examination of a patient complaining of irregularity of menstruation but in whom the characteristically painful symptoms are absent. Such a situation may result from adherent hemorrhagic ovarian cysts, as Counseller has pointed out, the chocolate-like content of the cysts being an entirely different entity, and not due to endometriosis.

The prominent part that endometriosis plays as an adverse factor in fertility has been pointed out and

should always be borne in mind in sterility investigations.

A certain number of patients in whom pelvic endometriosis is suspected, but whose symptoms are not severe, may be kept under observation and treated symptomatically, but this is the exception rather than the rule, for sooner or later something more positive will have to be advised. In that event, we are entirely in agreement with Dr. Payne's plan of conservative treatment in the case of patients under age 40, and especially so in those under age 30. Although it is recognized that total ovarian ablation will arrest the further development of endometriomatous lesions, we are too familiar with the serious problems that result from castration to resort to a radical procedure in younger women. Personally, we have been satisfied with the outcome of conservative surgery in the younger age groups. In several instances where there has been recurrence of symptoms following conservative operations, one or two courses of postoperative roentgen-ray therapy in subcastration dosage has proven beneficial in relieving the pain through the production of transient amenorrhea with the accompaniment of only minor vasomotor symptoms.

As a general rule, but subject to individualization, we do not favor roentgen-ray or radium therapy as a primary treatment for endometriosis, because the diagnosis may not be definitely settled until the pelvis has been exposed surgically. After age 40 and later and as the menopause is approached, there is lessened need for conservatism, and radical surgery may then be employed to greater advantage.

Dr. Payne's results with conservative treatment, as expressed on a percentage basis in Table V, are very worth while and justify his recommended procedures.

MORTALITY DATA OF PENNSYLVANIA PHYSICIANS

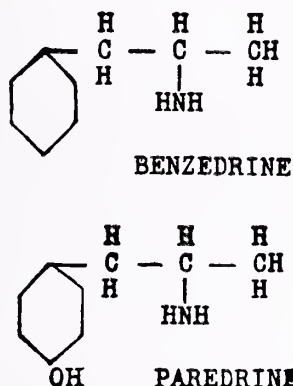
The following is a list of 28 physicians who died in Pennsylvania during the month of June, 1940:

<i>Name</i>	<i>Address</i>	<i>Age</i>	<i>Date of Death</i>	<i>Cause of Death</i>
Samuel Horton Brown	Philadelphia	61	June 12	Acute pancreatitis
Arthur Burling	Philadelphia	66	" 2	Cancer of larynx
Joseph S. Callen	Shenandoah	86	" 4	Fracture of hip
Harold Canter	Philadelphia	27	" 9	Endocarditis
George E. Cramer	Aspinwall	57	" 14	Coronary occlusion
Edward C. Davis	Philadelphia	63	" 10	Malignancy of lung
William H. Deardorff	Philadelphia	72	" 20	Empyema of gallbladder
John T. Downing	Scranton	67	" 23	Heart block
Franklin H. Garverich	Harrisburg	78	" 15	Arteriosclerosis
Ben C. Gile	Philadelphia	67	" 18	Coronary artery thrombosis
Claude Girardeau	Philadelphia	53	" 30	Carcinoma of esophagus
George Livingston Hayes	Pittsburgh	70	" 22	Arteriosclerosis
John S. Hoffa	Williamsport	60	" 8	Arteriosclerosis
Charles F. King	McKeesport	53	" 22	Carcinoma of bladder
William A. La Ross	McDonald	72	" 16	Carcinoma of prostate gland
Welles J. Lowry	Carbondale	84	" 9	Arteriosclerosis
Murvington E. Malaun	Carbondale	72	" 25	Concussion of brain (automobile accident)
Harold A. K. Mengle	Blue Ball	39	" 21	Coronary embolism
Herbert P. Meyers	Confluence	65	" 8	Hypertension
Forest M. Reid	Philadelphia	52	" 25	Hypertension
David Riesman	Philadelphia	73	" 3	Carcinoma of transverse colon
Cecil Edward Ross	Erie	37	" 26	Suicide (gunshot wound)
A. Le Grand Runion	Canonsburg	89	" 11	Fracture of femur
Samuel J. Waterworth	Clearfield	66	" 6	Degenerative myocarditis
Edwin J. West	Easton	85	" 16	Acute prostatic obstruction
Chester Walton Young	Meadowbrook	52	" 16	Cancer of lung
John Irwin Zerbe	Franklin	61	" 16	Coronary occlusion
Lorenzo B. Zimmerman	Mt. Carmel	69	" 20	Coronary thrombosis

The Clinical Uses of Paredrine Hydrobromide in the Eye

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Philadelphia, Pa.

FOLLOWING the original suggestion of A. Myerson and W. Thau, S. J. Beach and W. R. McAdams reported on the use of benzedrine sulfate (amphetamine sulfate) as a synergist to homatropine and atropine in refractions. Paredrine* hydrobromide, a drug with similar struc-



ture, was shown by W. O. Abbott and C. M. Henry to be an effective mydriatic.

The author modified the technic of Beach and McAdams in refractions. Satisfactory cycloplegia was obtained by instilling homatropine and paredrine, substituting atropine for homatropine in the case of young patients. Recovery of accommodation was greatly shortened in all cases. There was no evidence of irritation and no effect on intra-ocular tension. These results were in general confirmed by others.

The present paper is a further report on the clinical use of paredrine hydrobromide in the eye over a period of 3 years and includes studies of (1) the cycloplegic effect of paredrine in combination with atropine or homatropine, (2) the mydriatic effect in normal and diseased eyes, and (3) the effect on intra-ocular tension, the conjunctiva, and the lacrimal apparatus.

Cycloplegic Effect.—As previously reported, the original procedure was to instill a drop of 4 per cent homatropine hydrobromide, followed in 2 or 3 minutes by a drop of 1 per cent paredrine hydrobromide. Instillations were made so as to allow the drop to flow over the cornea, care being taken that it was not flicked out or allowed to run into the tear duct. A second drop of paredrine could be added if desired. Near vision and accommodation were measured at least 3 times by a Prince rule, Jaeger test-type No. 1, and a Duane card. The visual acuity for distance was also recorded, a +3.00 D. sphere being added to the distance correction for eyes under the cycloplegic.

After an interval of 2 weeks the same patients were again refracted by the old method of repeated instillations of 1 per cent atropine or 2 per cent homatropine.

In order to simplify the new procedure even further, it was decided to combine the drugs used. Atropine sulfate, 2.3 gr., or homatropine hydrobromide, 9 gr., was added to ½ oz. of paredrine hydrobromide in 1 per cent solution with 2 per cent boric acid. Since the paredrine solution was tear-isotonic, the resulting combinations were of necessity hypertonic. They were therefore compared with solutions from which the boric acid was omitted. No irritation was caused by any of the combinations and no difference of effectiveness could be ascribed to the tonicity of the solutions employed. The mixed solutions were used in a group including 150 children between ages 6 and 15, and 420 patients, age 15 to 45. A drop of the appropriate mixture was instilled into each eye, followed by a second drop in 2 or 3 minutes. A third drop was given if there was any doubt that either of the preceding drops had not been retained. The method of refraction was as already described.

The results obtained with paredrine and homatropine or atropine were accurately similar to those of the old method of repeated instillations of homatropine or atropine alone. Retinoscopy, subjective refraction, and the determination of astigmatism were in all cases equally

Read before the Section on Eye, Ear, Nose, and Throat Diseases of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 1, 1940.

From the Refraction Department, Wills Hospital, Philadelphia, Pa.

* Paredrine is the name given by Smith, Kline and French Laboratories to the sympathomimetic amine whose descriptive name is parahydroxy- α -methylphenethylamine.

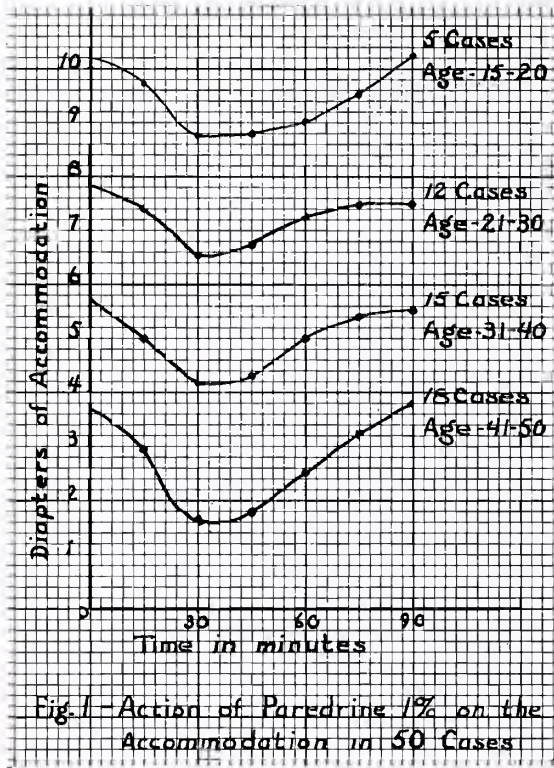


Fig. 1—Action of Paredrine 1% on the Accommodation in 50 Cases

Fig. 1

accurate under the 2 methods. On the other hand, when one drop of 4 per cent homatropine was instilled without the addition of paredrine, there was always sufficient residual accommodation to invalidate the results.

In the group of 150 children refracted under the atropine-paredrine cycloplegia, the greatest amount of residual accommodation was 1.5 D., the average being about 1 D. Recovery of accommodation took place in about 3 days, as opposed to an average of 10 days with the old technic. In the adult group the greatest residual accommodation was 1 D., with an average of less than 0.5 D. Satisfactory cycloplegia was obtained in 40 minutes, with the maximum in 60 minutes. Return of accommodation began in 4 or 5 hours. Ordinary print could be read within 7 or 8 hours and recovery was complete in 18 hours.

Recovery was considerably hastened by the instillation of a drop of eserine salicylate (0.5 to 1 per cent) on completion of refraction.

The question has often been raised as to whether or not paredrine and benzedrine have any effect on accommodation. Myerson and Thau reported impairment of near vision after benzedrine alone and showed definite synergism with atropine for the production of cycloplegia. This finding was verified clinically by Beach and McAdams. However, L. S. Powell and C. W. Rutherford, in the discussion of his paper, H. F.

Sudranski, and F. H. Thorne and H. S. Murphey reported that benzedrine did not decrease accommodative power. Thorne and Murphey stated that neither drug had any effect on cycloplegia except to delay recovery. Since these findings are at variance with those quoted above, they would seem to be due to errors of technic. Powell himself found some decrease in accommodation after the instillation of paredrine alone.

In the present study, although the cycloplegic effect was slight, it nevertheless was definite, particularly among patients in the older age groups. In 50 patients of different ages, one drop of a 1 per cent solution of paredrine instilled alone was found to reduce the accommodation an average of nearly 2.0 D. in about 30 to 40 minutes. The size of the pupils was controlled by the use of a disk with 3 mm. aperture. Complete recovery took place about one hour later (see Fig. 1). E. B. Weinman and F. B. Fralick observed a more marked loss of accommodation after the instillation of benzedrine. The maximum decrease of 3 D. occurred in 30 minutes and recovery was complete in 90 minutes. In a personal communication they reported a decrease of 2.5 D. with paredrine. Furthermore, whereas the results were unsatisfactory, or at best doubtful, in nearly all cases where one drop of 4 per cent or 5 per cent homatropine was instilled alone, they were excellent when both homatropine and paredrine were employed. The only possible conclusion is that there is a real synergism between paredrine and homatropine for the production of cycloplegia. The evanescent action of paredrine, as well as the smaller amount of homatropine instilled, explains the rapid return of accommodation.

The question of the innervation of the ciliary body has long been a moot point. G. Cogan, in a very detailed article, presented evidence of the dual innervation of the ciliary muscle in accommodation. Recent experiments of J. M. D. Olmsted and M. W. Morgan indicate that sympathetic stimulation has a cycloplegic as well as a mydriatic effect in animals. They concluded that accommodation involves reciprocal action of the sympathetic and third nerves. If this applies to humans as well, sympathomimetic drugs such as paredrine have a rational basis for use in refraction.

Mydriasis.—The mydriatic effect of paredrine hydrobromide was studied in 100 normal eyes. Instillation of 1 per cent paredrine produced dilatation to 4-5 mm. within 30 minutes, to 6 mm. in 40 minutes, and a maximum of 7-8 mm.

in 50 to 60 minutes. The duration of the mydriasis was usually about an hour and the pupil gradually returned to its original diameter within 4 to 5 hours. When 3 per cent paredrine was instilled, the dilatation was regularly about 1 mm. greater than with the 1 per cent solution. This was true for all times of observation, so that it was obvious that mydriasis satisfactory for ophthalmoscopic examination could be obtained in a shorter time with the stronger concentration. The maximum was observed in 50 to 60 minutes after instillation, at which time the pupillary diameter was 8-9 mm. The return to the original diameter took place in 4 to 5 hours, as with the 1 per cent solution.

In cases of senile cataract, the instillation of 1 per cent or 3 per cent paredrine 45 minutes prior to the operation provided satisfactory dilatation without affecting intra-ocular tension.

In 10 cases of early iritis not complicated by synechiae, 3 per cent paredrine was instilled in the affected eye 3 times a day. Other general medication was given, but atropine was not used. In all cases satisfactory dilatation was maintained, thus preventing the development of synechiae until recovery was complete.

Paredrine was also used in cases where synechiae had already developed when the patient was first seen. In 5 cases of recent onset the synechiae were freed and the dilatation maintained by the instillation of 3 per cent paredrine and 1 per cent atropine t. i. d. in addition to other drugs ordinarily used in these cases. In 20 older cases of iritis, uveitis with synechiae and secondary glaucoma, annular synechiae following long-standing iridocyclitis and uveitis, and posterior or traumatic anterior synechiae, no effective results were obtained by any medication, although paredrine was tried by instillation and subconjunctival injection in concentrations up to 10 per cent, and although it was used in conjunction with atropine, epinephrine, neosynephrin, and other drugs.

Intra-ocular Tension, Conjunctiva, and Lacrimal Apparatus.—Intra-ocular tension was tested with a Schiötz tonometer before and 1 to 2 hours after the instillation or subconjunctival injection of paredrine in concentrations of 1-10 per cent. No change was ever observed in the tension following these procedures.

Blanching of the conjunctiva occurred in all cases after the instillation of paredrine. There was never any indication of irritation or burning. On the contrary, paredrine tended to counteract the irritation due to atropine or homatropine in certain cases.

No effect on the lacrimal apparatus was noted.

In a few cases in which slight pressure was not made over the inner canthus, the solution reached the nose. It caused no irritation of the mucous membrane and tended to reduce that due to atropine or homatropine.

Summary and Conclusions

A study has been made of the effect of paredrine hydrobromide on accommodation, pupillary diameter, intra-ocular tension, the conjunctiva, and the lacrimal apparatus.

Cycloplegia satisfactory for refraction was obtained by the instillation of a drop of 1 per cent atropine or 4 per cent homatropine followed in 3 minutes by a drop of 1 per cent paredrine. The drugs may be combined by adding atropine sulfate, gr. 2.3, or homatropine hydrobromide, gr. 9, to $\frac{1}{2}$ oz. of 1 per cent paredrine hydrobromide solution. When the combination solution is used, 2 instillations are made. Recovery can be hastened by the instillation of eserine.

A comparison of refractions after the instillation of homatropine and paredrine and after the instillation of homatropine alone showed that results were less accurate when the paredrine was omitted. When paredrine alone was instilled, a slight, transitory cycloplegic effect was observed.

Paredrine was found to be useful for routine ophthalmoscopic examination. A 1 per cent solution produced satisfactory mydriasis in 20 to 30 minutes, with return to normal in about 4 hours. The more rapid and pronounced mydriatic effect of a 3 per cent solution was particularly useful for dilating the pupil prior to cataract operation and in uncomplicated cases of iritis, with or without the addition of atropine.

Paredrine had no demonstrable effect on intra-ocular tension or on the lacrimal apparatus. It caused blanching of the conjunctiva and tended to counteract the irritation produced by atropine and homatropine.

ABSTRACT OF DISCUSSION

SIDNEY L. OLSHO (Philadelphia): Over a long period of years I have routinely employed atropine in children, 3 times a day, 5 instillations; in adults, homatropine, one drop every 10 minutes for 10 instillations.

Very early in my career I came to the conclusion that a thorough cycloplegic effect is necessary for an efficient refraction. My purposes are to insure (1) an accurate determination of the axis and amounts particularly of low astigmatism, (2) the uncovering of the whole error in young people, accurately analyzing the hyperopia and the astigmatism, and (3) particularly to avoid the over-correction of myopia.

The effort now by synergistic cycloplegia is (1) to reduce the number of instillations to a minimum. (2) to obtain satisfactory cycloplegia in the shortest possible time, (3) to permit the quickest possible recovery of the accommodation.

It has always been my prime interest to secure an adequate cycloplegia so that all of the defect may be uncovered. More particularly, I do not wish to be hurried or to be handicapped by an insufficient cycloplegia solely because there may be temporary inconvenience to the patient.

For the past 3 years I have accepted and used synergistic cycloplegia. My old records show the results which I obtained with what I think was a thorough cycloplegia. I compare the results I now obtain with those which I formerly obtained. As a general rule I find very little, if any, change. In other words, the patient will accept as much of a sphere with synergistic cycloplegia now as he did under the influence of the thorough cycloplegia then. There are either no changes whatsoever or just natural variations, due to untoward events or to the passage of time.

But in conformity with my determination to obtain thorough cycloplegia, even with the application of the

new synergistic method, I have not been satisfied with but a single drop of the paredrine atropine or paredrine homatropine. From the start (although benzedrine was the start and now it is paredrine) I used it in this way: H.—P.—H.—P. at intervals of 6 minutes and then wait one hour, or in the case of atropine, A.—P.—A.—P. at intervals of 15 minutes and then wait one hour.

I find the latter method peculiarly adaptable when a child appears at the office, say, on a Saturday morning. I feel quite certain that on that same day I can obtain a thorough cycloplegic effect.

I have been particular about making instillations myself rather than entrusting them to a nurse, as I wish the cycloplegic to be instilled over the insertion of the superior rectus, if possible, otherwise over the insertion of the external rectus, so that the solution may pass over the eyeball and mingle with the tears before it is squeezed out by the patient.

SOAP AND CLEANSER INGREDIENTS CAUSE MOST HOUSEWIVES' ECZEMA

The majority of cases of housewives' eczema, and inflammatory eruption of the skin, which is one of the commonest and most obstinate skin disorders to treat, are caused by hypersensitivity to ingredients of soaps and allied cleansers, James W. Jordon, M.D., Frank A. Dolce, M.D., and Earl D. Osborne, M.D., Buffalo, maintain in *The Journal of the American Medical Association* for Sept. 21.

Soaps and cleansers are mixtures of the alkali salts of fatty acids, and the marketed products, the authors point out, are not simple mixtures. They contain many other substances, some of which are rosin, naphtha, borax, gums, resins, synthetic perfumes, and animal products such as civet, musk, and ambergris. Many of these compounds are known to be eczematizing or allergenic agents.

Of 239 patients studied by them over a period of 4 years, they say, 61 per cent were housewives or domestics and the remaining 39 per cent had frequent contact with soaps and cleansers as they were surgeons, nurses, orderlies, cooks, hairdressers, dishwashers, and bartenders.

"The eczema in many of our cases," the authors say, "had been erroneously diagnosed as ringworm and nearly all long-standing cases had run the gamut of ringworm remedies. They were either unimproved or made worse by treatment of this type.

"The diagnosis in our cases," they explain, "was made by a carefully taken history including the duration of the condition, the frequency of exposure, and the types of soap and allied cleansers employed in the household. Most patients noted that they were either completely free from the condition or improved during the warm months. A high percentage of the patients noted improvement during periods of vacation, illness, or other lapses in routine when soap and cleansers were used infrequently. Many patients observed that an attack was precipitated or an existing one made worse when these substances were frequently used. Nearly all patients reported periods of complete freedom lasting from a week to several years."

Preventive methods (wearing of rubber gloves, using soothing lotions and ointments, and avoiding contact

with the agents) were impractical, but the substitution of a detergent (cleanser) for the incriminating agents proved efficacious. The substitutes for soap and household cleansers were alkyl sulfonate compounds. They can be prepared in bar form for toilet use or in powdered form for general household cleansing purposes. They are neutral in reaction. Their calcium and magnesium salts are soluble in water and therefore they leave no deposit of scum in bathtubs, sinks, or other receptacles and no greasy spots in clothing. They are much more effective as emulsifying and detergent agents than are soaps and are stable under ordinary atmospheric conditions. They do not turn rancid as do soaps. They can be prepared and marketed at a cost that compares favorably with soap and have been employed extensively in the textile industry as a substitute for soap with marked success. Recently some of these compounds have been used as substitutes for soap in shampoos, tooth pastes, and dentifrices.

While a certain number of patients undoubtedly will become sensitive to these compounds, it is the 3 men's opinion that they are not primary irritants or highly eczematizing in concentrations sufficient for cleansing purposes. Their studies lead the authors to believe that the compounds come closest yet to being an ideal substitute for soap.

VITAMIN-FREE FOODS FOR RESEARCH!

A recent announcement by the Research Laboratories of the S. M. A. Corporation reveals that they are now in a position to provide vitamin-free casein and other vitamin-free foods for experimental purposes to researchers who have previously been obliged to manufacture these items for private use.

For many years the S. M. A. Corporation has been producing these foods exclusively for use in their laboratories. Now, with the expansion of their own facilities and the realization of the convenience to others engaged in laboratory work, this offer is made to provide vitamin-free diets at an exceptionally reasonable cost. Quantities of 1, 5, 10, or 100 pounds or more may be ordered directly from the Research Laboratories, S. M. A. Corporation, Chagrin Falls, Ohio.

Neurologic Problems Past Fifty

MATTHEW T. MOORE, M.D.

Philadelphia, Pa.

THE remarkable advances in the many phases of medical science and their more widespread application since the turn of the century have effected an increased life expectancy and a steadily rising percentage of the total population composed of individuals past age 50. It has been estimated that "by 1990 the senescent population will have become equal to, if not in excess of, the preadolescent population."¹ Fifty is not to be considered arbitrarily as the line beyond which old age and senescence begin but rather as the vague dividing line between the incline and decline of the life span. Many of the degenerative diseases implicit with old age may and do occur before age 50, and conversely they may not appear for a decade or more after age 50.

In this expanding group past age 50, medical problems are greatly increased because of the increment of those vascular and degenerative diseases which are essentially characteristic of advancing age together with many of those diseases which also occur prior to age 50. Two factors complicate the neurologic problems in this group; first, when those diseases which ordinarily occur in the earlier decades of life make their appearance after age 50, the symptoms and signs are frequently altered or so different as to cause many commissive and omissive errors in diagnosis; second, among the vascular and degenerative diseases some of the commonly anticipated conditions may simulate, disguise, or occur concurrently with other disease entities not usually suspected.

It would be impossible within the limited scope of this paper to enumerate and discuss all of the neurologic conditions which are encountered past age 50. In order to simplify the discussion of the diagnostic pitfalls and difficulties which may beset the practitioner, the most frequently occurring neurologic conditions past age 50 have been divided into 5 groups, as follows:

I. Vascular disorders.

1. Cerebral thrombosis.

2. Cerebral hemorrhage.
 - a. Localized.
 - b. Spreading and disruptive.
 - c. With intraventricular hemorrhage.
3. Cerebral embolism.
4. Hypertensive encephalopathy.
5. Cerebral arteriosclerosis—all forms.
 - a. Focal manifestations.
 - b. Diffuse manifestations.

II. Intracranial space-taking lesions.

1. Primary brain tumors.
 - a. Glioma.
 - b. Meningioma.
 - c. All other forms.
2. Metastatic malignancy.
3. Abscess.
4. Subdural hematoma.
5. Tuberculoma, gumma, etc.

III. Degenerative diseases.

1. Senile psychosis.
2. Alzheimer's disease.
3. Pick's disease.
4. Schilder's disease.
5. Multiple sclerosis.
6. Combined sclerosis—pernicious anemia.
7. Parkinson's disease.
 - a. Idiopathic.
 - b. Postencephalitic.

IV. Inflammatory diseases.

1. Syphilis.
 - a. Meningovascular.
 - b. Paresis.
 - c. Tabes dorsalis.
 - d. Other forms.
2. Meningitis.
 - a. Epidemic.
 - b. Acute purulent.
 - c. Tuberculous.
3. Encephalitis.

V. Miscellaneous conditions.

1. Pellagra and subclinical pellagrous states.
2. Migraine.
3. Intoxications.
 - a. Alcohol.

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From the University of Pennsylvania Graduate School of Medicine, John L. Eckel Neuropathological Laboratory, and the Jewish Hospital, Philadelphia.

- b. Lead and other metals.
- c. Drugs, etc.
- 4. Spinal cord lesions.

These 5 groups, which do not include all of their respective conditions, are composed of disease entities, any one of which, in their clinical manifestations, may be confused with conditions represented in the other 4 groups. Thus a patient suffering from cerebral arteriosclerosis may present the neuropsychiatric symptoms which may resemble and be diagnosed as either an intracranial space-taking lesion such as a brain tumor, a degenerative disease such as Pick's disease, an inflammatory disease such as paresis, or subclinical pellagra.

Group I

The following case history illustrates how a cerebral vascular disorder may appear in the guise of other conditions:

CASE 1.—W. H., a man, age 50, was admitted to the hospital with the diagnosis of uremic coma. On the morning of admission he had a dizzy spell, loss of consciousness, and a generalized convulsion lasting a half hour. Spinal puncture showed the cerebrospinal fluid under increased pressure. He was confused, disoriented, and his speech was thick. Fundus examination showed marked angiosclerosis. There were mild right-sided neurologic signs. A clinical diagnosis of brain tumor or abscess was made and encephalography advised. The encephalogram was suggestive of a space-taking lesion in the left frontotemporal area. A craniotomy was performed, but no lesion was found.

Necropsy showed (1) cerebral arteriosclerosis, (2) multiple cerebral softenings, and (3) terminal hypostatic pneumonia.

Comment: During his stay in the hospital this patient presented clinical and encephalographic evidence of an intracranial mass lesion. The probability of the symptoms being due to a diffuse cerebral process resulting from arteriosclerosis apparently was discounted because of his age, the retinal angiosclerosis notwithstanding. The remarkable similitude of some cases of cerebral vascular disease to an intracranial mass lesion occasionally defies the making of a differential diagnosis, particularly if technical aids lend no aid or are misleading.

Contrary to the general belief that most cases of acute cerebral vascular insults in persons past middle life are due to hemorrhage, necropsy records indicate that about 7 out of 10 such cases are due to thrombosis. In cerebral thrombosis the onset is usually, though not invariably, gradual with progressive sensory and motor phenomena which may persist in an arrested form or completely disappear in time. Some cases show progression with mental symptoms and neurologic signs simulating other neurologic states such as tumor, degenerative diseases, etc.

Cerebral hemorrhage most frequently makes

its appearance with startling suddenness, with loss of consciousness, vomiting, occasionally convulsive seizures and profound paralysis. Most patients die and the outcome is determined by the extent and location of the hemorrhage, and whether the ventricle has been ruptured into. Cases of extensive intraventricular hemorrhage are invariably fatal. All instances, however, of a severe abrupt onset are not due to hemorrhage. Thrombosis of a large vessel such as the middle cerebral may produce the same picture. The mere presence of marked hypertension with arteriosclerosis and a sudden profound cerebral "accident" should not lead one to the conclusion of cerebral hemorrhage, for as will be shown among the cases in Group II a similar state may be produced by brain tumor.

Cerebral embolism occurs infrequently among the older age groups. When it does, it appears suddenly and in those patients suffering from auricular fibrillation, or from subacute and acute bacterial endocarditis. With the history of these conditions being known, a diagnosis is readily made. When a patient has multiple cerebral emboli in the absence of a history of a fibrillating heart or bacterial endocarditis, the condition may be confused with multiple vascular softenings, encephalitis, meningitis, brain tumor, or some form of intoxication.

Hyperpiesis may produce cerebral signs and symptoms varying from a diffuse vague type which might simulate some form of cerebral vascular disorder to focal manifestations resembling brain tumor. Not infrequently the associated increased intracranial pressure will result in the cardinal signs of tumor, headache, vomiting, choked disk, and mental symptoms. The "pseudo-tumor" of hypertension must be carefully distinguished from hypertension in association with brain tumor (cases 2, 5).

Among the large group of patients having cerebral arteriosclerosis, many may show no neuropsychiatric symptoms at all, while others will show either focal or diffuse manifestations often of a bizarre nature. N. W. Winkelman has reported the case of a man, age 70, who had convulsive seizures from age 61 on. Examination of the brain revealed arteriosclerotic vessels with one large vessel compressing and eroding the cortex, acting in this way as an irritating focus. The diffuse manifestations of cerebral arteriosclerosis are due mainly to impoverished brain nutrition secondary to impeded blood flow. The clinical symptoms are variegated and may resemble many of the diseases mentioned in Groups II, III, IV, and V.

Group II

Perhaps the most misleading in point of recognition are those conditions listed under intracranial space-taking lesions. Such a lesion, with respect to history, clinical signs, and symptoms, may resemble to a nicety each one of the types of vascular disorders found in Group I. It may also be confused with almost any of the conditions in the other 3 groups or with another member of its own group. In reviewing the necropsy records of 177 cases of brain tumor, D. W. Hastings found 25 patients (past middle life) in whom the diagnosis was made only at necropsy. Of these 25 cases, 19 were diagnosed clinically as some form of cerebral vascular "accident." The other 6 cases were diagnosed variously as syphilis of the brain, traumatic arachnoiditis, and lead encephalopathy.

The following brief case histories will illustrate some of the perplexities encountered in Group II:

CASE 2.—R. B., a man, age 64, was admitted to the hospital with the diagnosis of (1) hypertensive cardiovascular disease, and (2) left hemiplegia due to right-sided cerebral thrombosis. He was a known hypertensive and was free of complaints up to 3 months before admission. He developed weakness of the left leg and after a fall had a complete hemiparesis of the left side of the body. There were several bouts of left-sided jacksonian convulsions without loss of consciousness. The sensorium remained clear and after one month in bed the left hemiparesis cleared up. Prior to admission he experienced another left jacksonian seizure followed by slurring of speech and weakness of the left side. In the hospital the blood pressure varied from 140 to 200 systolic. There was a left hemiparesis. The tendon reflexes were increased with a left preponderance. Cerebrospinal fluid pressure was 125 mm. The patient improved while in the hospital for 12 days and then had a sudden onset of unconsciousness with neurologic evidence of bilateral lesions and died within 24 hours.

Necropsy revealed (1) a glioma, right paracentral lobule, (2) recent hemorrhage in the left cerebral hemisphere with rupture into the lateral ventricle, and (3) cerebral atherosclerosis.

Comment: The nature and development of the hemiparesis in this hypertensive individual of 64, who showed evidence of arteriosclerosis, led to the most likely diagnosis of cerebral thrombosis. The low cerebrospinal fluid pressure was not indicative of an intracranial mass lesion, although 30 per cent of brain tumors may show normal cerebrospinal fluid pressure. The original weakness of the left leg and the subsequent attacks of left-sided jacksonian seizures and hemiparesis were unquestionably due to the glioma in the right paracentral lobule and not due to thrombosis or hypertensive vascular disease. This patient did not have the recognized symptoms of brain tumor such as (1) headache (which in his case was present only at intervals and to a moderate degree), (2) vomiting, (3) mental disturbances, and (4) choked disk. The hemorrhage in the left hemisphere with intraventricular hemorrhage was the terminating cause.

W. D. Abbott, E. W. Anderson, C. Van Epps, and A. E. Walker reported a case of hypertension (234/110) associated with left jacksonian convulsions and a left hemiparesis which had been studied on several occasions and finally was submitted to operation. A meningioma was removed from the right hemisphere.

The episodic character of the attacks of jacksonian seizures and hemiparesis persisting on one side, even in the face of age, arteriosclerosis, and hypertension, warrants the attempt by technical diagnostic procedures to rule out brain tumor.

CASE 3.—K. M., a woman, age 67, was admitted to the hospital with the diagnosis of (1) cerebral vascular accident, (2) possible uremia. She had had a sudden onset of nausea and vomiting after eating a hearty supper. This was followed in 3 hours by a similar attack. She then became stuporous and died within 24 hours after the onset. One and one-half years previously she had a similar episode of nausea, vomiting, and stupor, remaining in bed one month. Ten months later there was another attack during which she was unconscious one week. There were no residual paralyses following these attacks. They had been diagnosed as cerebral thrombosis and apoplexy. There was a free interval of 8 months before the final illness.

The necropsy showed (1) a large hemangioblastic meningioma, right frontal lobe, with areas of hemorrhage within the tumor, (2) left intraventricular hemorrhage, and (3) cerebral arteriosclerosis.

Comment: This patient had 2 acute attacks of nausea and vomiting with stupor and unconsciousness followed after brief intervals with complete recovery. The usual dictum of "cerebral thrombosis when recovery occurs, and brain tumor when symptoms progress" obviously did not hold in this case. It is noteworthy that during the free intervals this patient showed none of the cardinal signs and symptoms of brain tumor. Histologic examination of the tumor revealed it to be a highly vascular type of meningioma with evidence of recent and old hemorrhages within its structure. The acute onset of the 2 attacks previous to the fatal one was probably due to hemorrhage within the tumor and attendant edema of the surrounding brain tissue. When the edema subsided, recovery ensued. This type of "apoplexy tumor" has been described by C. Elsberg and J. H. Globus, and others.

CASE 4.—T. R., a married woman, age 54, gave the history of having had a syncopal attack 9 months before admission to the hospital. Another attack occurred 3 months later. She showed a marked personality change, was confused, had a memory loss, talked continuously, and was given to unprovoked spells of crying. She was treated as a case of menopausal syndrome. Following a fall she was admitted to the hospital where she showed the mental disturbances cited above plus a mild right facial weakness and weakness of the right arm. The tendon reflexes on the right were greater than the left. There was no choking of the disk. The cerebrospinal fluid pressure was 180 mm. A tentative diagnosis of a glioma of the left frontoparietal region was made. Subsequently several blood and cerebrospinal fluid Wassermann reactions were reported 4 plus. In view of the laboratory findings the patient was given intensive antisyphilitic treatment without improvement. One month after admission she suffered an acute onset of coma and died.

Examination of the brain showed a glioblastoma multiforme of the left fronto-temporo-parietal region

with recent hemorrhage in the tumor. The brain and vessels showed no evidence of syphilis.

Comment: The early phase of this patient's illness was characterized by marked mental changes the nature of which could very well have fitted the diagnosis of vascular disorder such as cerebral arteriosclerosis with multiple softenings, a degenerative disease such as Alzheimer's disease, and latterly with the appearance of focal signs as Pick's disease, or as it was erroneously but with warrantable justification diagnosed menopausal syndrome. The appearance of focal signs and progression of the mental abnormality led to the tentative diagnosis of brain tumor, which was then abandoned in the face of several positive Wassermann reactions. She was treated as a case of cerebral syphilis. Here then was a case of brain tumor presenting mainly mental symptoms, later mild focal signs, and having a positive blood and spinal fluid Wassermann reaction.

CASE 5.—R. M., a woman, age 61, had been having several attacks of vomiting and dizziness for one month previous to admission to the hospital. She was informed that this was due to high blood pressure, the systolic pressure being above 200. In the hospital she was confused, disoriented, and showed memory defects. The pupils were unequal, there was a questionable nuchal rigidity, and the Kernig sign was present. The optic disks were hazy. She improved after a lumbar puncture, which showed a pressure of 500 mm. C. S. F. The clinical diagnoses made were (1) meningo-encephalitis, (2) cerebral vascular accident, (3) degenerative lesion of the midbrain, and (4) brain tumor, third ventricle. Roentgen ray of the chest showed a "suggestion of a tuberculous process but malignancy could not be excluded." A ventriculogram revealed a symmetrical internal hydrocephalus. The patient died suddenly after a short period of improvement.

Necropsy showed: (1) Brain—diffuse meningeal carcinomatosis and carcinomatous mass in left island of Reil. (2) Chest—primary bronchogenic carcinoma, middle lobe of right lung, and bilateral apical fibroid tuberculosis.

Comment: The clinical picture in this case was that which is commonly seen in metastatic carcinoma to the brain, but in view of the absence of an antecedent history indicating carcinoma elsewhere in the body, the symptoms were such as to suggest many diverse conditions. W. E. C. Dickson and C. Worster-Drought reported 7 cases (average age 53) of cerebral metastatic tumors arising from primary bronchial carcinoma in which the group symptoms were headache, confusion, lack of concentration, memory defect, disorientation, papilledema, and occasionally focal neurologic manifestations. They stated that the diagnosis is usually made postmortem and in their series the chest symptoms were conspicuously absent.

M. Bernstein, M. T. Moore, and D. B. Fishbach, in reporting a case of metastatic bronchogenic carcinoma to the posterior lobe of the pituitary and cerebrum, called attention to the need for carefully investigating possible primary sources of carcinoma in patients presenting cerebral symptoms in the "cancer age." Where a known history of carcinoma exists, the onset of cerebral symptoms should, with few exceptions, point to the diagnosis of cerebral metastasis.

CASE 6.—S. D., a woman, age 68, was admitted to the hospital with the diagnosis of (1) meningeal hemorrhage, (2) cerebral syphilis. Two weeks prior to admission she fell and struck her head without losing consciousness. Roentgen ray of the skull was negative.

Examination at the time of admission showed a confused, disoriented, occasionally aphasic patient with diffuse and nonfocal neurologic signs. The clinical appearance was that of either metastatic carcinoma to the brain or diffuse cerebral arteriosclerosis. While in the hospital she improved remarkably over a period of one month and then quite rapidly showed a return of the mental disturbance previously shown and in addition presented a mild right hemiparesis. A diagnosis of left subdural hematoma was made and a bilateral trephine of the skull was performed. A subdural hematoma over the left cerebral region was found and evacuated. The patient made a complete recovery.

Comment: This case illustrates the vague and changing clinical appearance of a case of subdural hematoma. The resemblance to metastatic malignancy and diffuse cerebral arteriosclerosis with multiple softenings was striking. Repeated neurologic examinations and more careful consideration of the history of a head injury established the final diagnosis.

Brain abscess in patients over age 50 differs very little in its clinical picture from that seen in younger individuals. The difficulty in recognition lies not only in the trouble inherent in the diagnosis of abscess itself but in the fact that frequently it resembles the many other diseases more often found after age 50. The history of sinus infection, middle ear disease, or head trauma with skull fracture, in the presence of cerebral symptoms, should direct one's attention to brain abscess.

Tuberculoma and gumma occur less frequently than any of the preceding conditions but often enough after 50 years to present a diagnostic problem. R. H. Jaffé and A. Schultz reported 49 cases of conglomerate tubercle of the central nervous system in 7000 consecutive necropsies. In the main they were associated with tuberculosis elsewhere in the body, although several cases showed the involvement of the nervous system as the only active tuberculous focus. The symptomatology of both tuberculoma and gumma depends upon the location of the lesion, but usually there are focal signs and symptoms. Conglomerate tuberculoma in older age groups frequently contains calcium deposits and may be seen on the ordinary roentgen-ray film. The history of syphilitic infection and positive serology are of significance in establishing the diagnosis of gumma, but negative serology may be found in as many as 40 per cent of these lesions. The presence of positive serology and symptoms of an intracranial mass lesion, however, do not invariably lead to the diagnosis of gumma as was illustrated in Case 4.

From the case histories just presented and the discussion of the clinical manifestations of intracranial mass lesions in patients past age 50, it will be seen that no uniform symptom complex obtains as may be found in younger patients. On

the contrary, marked variability in symptomatology is frequently the case. Also, the mere fact that the weight of evidence would indicate some condition found in Groups I, III, IV, and V should not preclude the diagnosis of a cerebral mass lesion.

Group III

Among the conditions listed under the so-called degenerative diseases, the first 5, senile psychosis, Alzheimer's disease, Pick's disease, Schilder's disease, and multiple sclerosis, may look like some form of cerebral vascular disorder or intracranial mass lesion unless carefully studied. The striking presence of mental symptoms only in many cases of brain tumor makes it imperative to eliminate it as a possibility even in apparently obvious cases of senile psychosis. Alzheimer's disease and Pick's disease are infrequently met with and may be distinguished by their differences in the psychiatric and neurologic phenomena. They both, however, present symptoms such as aphasia, apraxia, occasional convulsive seizures, and mental disturbances which may simulate brain tumor. The focal motor symptoms in Pick's disease might also resemble a vascular accident or tumor.

Schilder's disease occurs very rarely after age 50, but in its symptomatology and neurologic signs often cannot be differentiated from brain tumor or multiple vascular softenings. A. Ferraro and Winkelman and the author have called attention to the extreme difficulty in distinguishing Schilder's disease from brain tumor.

Multiple sclerosis, even in those under age 50, presents diagnostic difficulties, and in those over age 50 it must be differentiated from brain tumor, cord tumor, encephalomyelitis disseminata, paresis, hysteria, paralysis agitans, and vascular disorders. Fortunately it occurs infrequently after 50 years, approximately 4 per cent of all cases of multiple sclerosis appearing after that age.

Subacute combined sclerosis of pernicious anemia may occasion some problem because of the resemblance to tabes dorsalis, multiple sclerosis, spinal cord tumor, and when mental symptoms appear, brain tumor or cerebral vascular disease. A complete laboratory and neurologic examination should readily establish the diagnosis.

The frequency with which Parkinson's disease (paralysis agitans) of the idiopathic type is encountered makes it an easily recognized entity. The postencephalitic form, which does occur after age 50, sometimes presents hemiplegic and focal signs which may also be seen in brain

tumor or in cerebral vascular disease. The characteristic dyskinesia and basal ganglia phenomena and the course of the disease are usually sufficient to rule out the other possible conditions mentioned.

Group IV

Although syphilis has been subjected to the heavy barrage of medical propaganda and improved methods of treatment, it still reaps a heavy toll on the nervous system. It attacks not only every part of the nervous system itself but also its envelopes and its blood-bearing channels. A discussion of this subject would require a textbook alone. The important considerations, taken broadly, lie chiefly in the differentiation from vascular disorders due to arteriosclerosis, brain tumor, metastatic cerebral carcinomatosis, or some form of degenerative disease. The diagnosis depends upon establishing the co-ordinated picture of the usual neurologic, psychiatric, and laboratory findings.

Meningitis in its various forms spares no age group. The purulent types usually offer no great diagnostic problem, even in the aged. An existing infection elsewhere in the body, meningeal signs, and the cerebrospinal fluid findings usually suffice to establish the diagnosis. Tuberculous meningitis, however, may develop insidiously in the older age groups and resemble more commonly anticipated conditions. This is illustrated by the following case:

CASE 7.—H. L., a woman, age 55, was admitted to the hospital with the history of being in good health until 3 weeks previously. She then experienced weakness, anorexia, difficulty in swallowing, and lost considerable weight. The examination disclosed emaciation, lethargy, thick speech, unequal pupils, rigid neck, positive Brudzinski sign, cerebrospinal fluid clear and under 285 mm. pressure. She developed signs of a bilateral bronchopneumonia. During hospitalization she had several convulsive seizures. Roentgen ray of the chest showed bronchopneumonia of both upper lobes. The clinical diagnoses made were (1) metastatic carcinoma of the brain and meninges, (2) bilateral bronchopneumonia with secondary meningeal involvement, (3) avitaminosis B, and (4) arteriosclerotic heart disease.

Necropsy revealed (1) tuberculous meningo-encephalitis, (2) severe cortical degeneration, and (3) pulmonary miliary tuberculosis.

Comment: This patient had no indication of a tuberculous process in the history or examination which would direct attention to a tuberculous meningitis. The clinical course and appearance of the patient strongly resembled metastatic cerebral carcinomatosis.

The various forms of encephalitis, epidemic encephalitis of von Economo, encephalitis B, and encephalitis X may attack individuals over age 50. The diagnosis of the acute phase is established in this group because of its epidemic nature. When seen in sporadic cases, the differ-

ential diagnosis of cerebral vascular diseases, meningitis, and intracranial mass lesions arises. The sequelae of von Economo's disease have been discussed under Parkinson's disease.

Group V

The nervous manifestations of pellagra are numerous and may resemble various forms of peripheral neuritis, subacute combined degeneration of the cord, parkinsonism, cerebral vascular disease, toxic psychoses, etc. The history of a deficient diet and the presence of the characteristic gastro-intestinal and skin findings plus the response to nicotinic acid and thiamin chloride should readily distinguish pellagra from the other conditions mentioned. The difficult problem lies in differentiating subclinical pellagrous states in those over age 50 from cerebral arteriosclerosis, neurasthenic states, mild stupors, and undifferentiated psychoses. Subclinical pellagra may resemble any of these in their widespread symptomatology. J. S. McLester and C. D. Aring and T. D. Spies have called attention to this and have shown that these subclinical pellagrous states respond dramatically to the use of nicotinic acid. Nicotinic acid thus is a diagnostic and therapeutic agent in these cases.

The subject of migraine offers, as does syphilis, the opportunity to dilate indefinitely. The problem here deals with the necessity of distinguishing the idiopathic and allergic forms of migraine from headache encountered among the conditions found in the vascular disorders, intracranial space-taking lesions, inflammatory diseases, and intoxications.

The diagnosis of the many types of intoxications ordinarily should offer little difficulty. It must be borne in mind, however, that alcoholism, bromism, lead encephalopathy, and other intoxications may be present concurrently with vascular disease, brain tumor, and the many other conditions enumerated in the 5 groups.

Individuals over age 50 are not exempt from lesions of the spinal cord, but the problems are essentially the same as encountered in younger age groups. Perhaps the only conditions which occur after age 50 and which may be confused with cord lesions of different etiology are occlusion of the anterior spinal artery, metastatic carcinoma, and diffuse vascular disease of the cord. The latter may be confused with syphilis of the cord, multiple sclerosis, and combined sclerosis. The 2 former conditions may resemble spinal cord tumor, partial transverse myelitis, or myelomalacia and can be recognized by a careful evaluation of the history and technical diagnostic aids.

The diagnostic difficulties encountered among

the conditions listed in the 5 groups indicate the necessity of a careful integration of complete and thorough studies. These patients past age 50 require and deserve longer hospitalization so that as many investigative examinations as are indicated can be carried out. Such an investigation would include the following:

1. Comprehensive history.
2. Complete physical examination.
 - a. Repeated neurologic examinations.
 - b. Examinations by the specialties.
3. Laboratory studies.
 - a. Complete blood studies.
 - b. Complete study of cerebrospinal fluid.
 - c. Urinalysis.
 - d. Other laboratory data pertinent to the case.
4. Technical diagnostic aids.
 - a. Roentgen ray.
 - (1) Flat plates.
 - (2) Cerebral pneumography, encephalography, or ventriculography.
 - (3) Other contrast media — lipiodol, thorotrast, or sodium iodide (cerebral arteriography).
 - b. Electro-encephalography.
 - c. Cerebrospinal fluid manometry.
 - d. Bárány test.
 - e. Perimetric field study.
 - f. Other aids such as electrocardiography, metabolism test, etc.

The need for intensive study is apparent when in one group alone (II), as shown in a representative review of hospital necropsy records of cases of brain tumor, a percentile error of 14 was made. The great majority of these undiagnosed brain tumors were labeled clinically as vascular accidents. What, then, of the enormous numbers of nonhospitalized "cerebral vascular accidents," among which are a considerable group of unrecognized brain tumors? The tendency to fall into the diagnostic slough of calling conditions by their apparently obvious names can be overcome only by a constant awareness of and a willingness to investigate the many conditions which may resemble them.

Summary and Conclusions

Attention has been drawn to the diagnostic problems in neurologic conditions occurring in patients past age 50, and illustrative cases have been cited.

The chief difficulties are due to the frequently misleading similarity in symptomatology of the diverse conditions met with in people over age 50.

The need for longer hospitalization and more intensive study in these cases is indicated and stressed.

REFERENCE

1. Editorial, *J. A. M. A.*, 109: 2143, Dec. 25, 1937.

ABSTRACT OF DISCUSSION

MAX H. WEINBERG (Pittsburgh): Dr. Moore deserves our thanks for calling attention to the host of problems that the increased span of life brings to us. It was, Schopenhauer, I believe, who said that there is "no pleasure without pain." It seems that even for progress human kind has to pay dearly. If the span of life is increased, we get more diseases to combat.

Dr. Moore's list of conditions that are apt to affect the patient who has passed age 50 is quite interesting, but, on the one hand, incomplete, as he himself points out, and that is to be expected. On the other hand, he has included conditions that he could very well omit. I refer to such conditions as multiple sclerosis, which is more a disease of young people; postencephalitic conditions, which are not particularly limited to old people; and certainly migraine is not a disease of older people. Indeed, it usually disappears at the climacterium.

Aside from this criticism, I heartily agree with Dr. Moore's presentation. The author is right in stressing the frequency of cerebral thrombosis and the desirability of differentiating this condition from cerebral hemorrhage. The profession is altogether too careless in its terminology as regards cerebral accidents, which leads to needless anxiety on the part of relatives of the patient.

The point that Dr. Moore makes in connection with his Case 2 is a very valuable one and I merely wish to stress it. We must all remember to suspect the possibility of the patient suffering with more than one condition, and there is need to study a case carefully even when the diagnosis seems to be obvious. I could cite many cases in illustration and corroboration of the author's point.

I was particularly interested in Case 6, that of an old woman with subdural hematoma. I truly regret that time does not permit my citing one of my own cases, a man of 73. It is of the utmost importance to diagnose this type of case correctly. Usually these cases respond to proper surgical treatment, but if the diagnosis is missed, the outcome is fatal. In older people especially the mental symptoms are predominant, and one is apt to call them senile dementia. Dr. Moore is right in stressing the need of paying attention to the organic neurologic signs and the history of injury.

One more point which I must mention in detail is the one of subclinical pellagra. Dr. Moore is laying proper stress on this point. I wish to add that whenever you get a long history of digestive disturbance, loss of appetite, or other gastric symptoms over an extended period, together with an obscure mental picture, you should think of subclinical pellagra and resort to nicotinic acid therapy. It actually serves as a test as well.

Dr. Moore has presented a well-prepared paper that is brief and full of important material. The cases that he cites illustrate in an excellent manner the points that he makes. A careful study of the paper should prove beneficial to the general practitioner and the specialist alike.

MOBILIZATION FOR HEALTH

Troubled times, national emergencies, and uncontrollable conditions drive home to us ideas with which we have hitherto merely toyed or established procedures which we have overlooked. Sharpened by the element of danger a new significance is attached to many things which we have been accustomed to accept without thought.

To many of us industrial hygiene was a name applied by health authorities to a somewhat vague and indefinite public health function. We were dimly aware that something was being done for industry in the way of preventing unnecessary sickness and death, but to those of us who were not actively engaged in industrial work the duties of the Bureau of Industrial Hygiene failed to impress themselves on our minds.

Today the story differs. The wheels of industry turn at a terrific pace. Factories, silent for years, suddenly hum with the combined energies of thousands of workmen. New factories, old factories, factories designed to insure healthful working conditions, factories which extract a toll in human health by their antiquated design and obsolete condition. The mills must operate! Production levels must be maintained!

Into this maelstrom of activity is injected a new element. The health of these workers must be carefully guarded. Their abilities have assumed a new importance. They are an irreplaceable bulwark of defense in our national scheme. Their safety and health must be preserved for the common good.

In Pennsylvania the Bureau of Industrial Hygiene has been quietly preparing for just such an emergency. Occupational hazards have been studied; disease control methods have been prepared; safety recommendations have been made. We are ready to face the emergency.

The forces of public health cannot wait for an emergency to arise. They must plan a campaign of strategy long before the health of the people is threatened. To foresee the emergencies of the future is part of the task. In Pennsylvania the Health Department has made doubly sure that its workmen would be protected by the creation of a competent Bureau of Industrial Hygiene. The dividends received by our citizens today testify to the wisdom of such a creation. Pennsylvania has mobilized its industry and its arms for national defense. But we have gone further—we have mobilized to insure the health of these defenders. Mobilization of resources in the commonwealth includes a mobilization for health.—Editorial, *Pennsylvania's Health*, October, 1940.

DATE SET FOR 1941 A. M. A. SESSION

The Board of Trustees of the American Medical Association has selected June 2-6, 1941, as the date for the ninety-second annual session of the association to be held at Cleveland, *The Journal* of the association announces in its Aug. 24 issue.

The Evaluation of Biological Products in the Treatment of Pertussis

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THE number and variety of agents recommended for the treatment of pertussis have been great. As is usually the case, the proposal of many therapeutic agents for a disease, without the general acceptance of any particular one, indicates failure to find an effective treatment. This failure is further evidenced by the fact that pertussis, with a hospital mortality rate of between 10 and 12 per cent, has continued to be responsible for more deaths at the Philadelphia Hospital for Contagious Diseases than any other disease. This has been true for the past 5 years, during which period pertussis deaths have actually exceeded those from scarlet fever, diphtheria, measles, poliomyelitis, and erysipelas combined. It must be remembered, however, that practically all cases of pertussis admitted to the hospital have some serious complication.

Prophylaxis, now generally accepted as effective in 80 per cent of those actively immunized, is undoubtedly the line of attack which offers the best chance of reducing the number of deaths from whooping cough. Our immediate problem at the hospital, however, is the treatment of the patient who has been unprotected and has developed the disease.

Mention of all of the various forms of therapy which have been proposed at one time or another is beyond the scope of this paper. It will therefore be limited to those biological agents which are recommended, with particular reference to the vaccines and other antigenic substances which we have tried. The nonbiological products which have received more attention recently have been roentgen-ray and ultraviolet therapy, estrogenic substance, ascorbic acid, gold tribromide, subcutaneous ether, antipyrine, proprietary thyme preparations, bromoform, and sulfanilamide. Of these it may be said that no one has been widely accepted as specifically effective, although antipyrine is used extensively. L. W. Sauer¹ after

considering various agents states that "only fresh warm air and natural sunshine have withstood the test of time." Francis McDonald, reviewing the status of vaccine therapy, noted that this form of treatment had been gradually discarded, but that interest was revived by T. Madsen's Cutter lecture in 1926. Madsen described the large scale Danish experiments in which were reported good results from using vaccines prepared from freshly isolated strains of hemophilus pertussis grown on a hemoglobin enriched medium. Since that time many unfavorable reports have appeared, but occasional encouraging results have preserved the hope that therapeutically effective antigenic substances might be found. The search for such agents has led to the development and clinical trial of many preparations of the pertussis organism.

It is now recognized that hemophilus pertussis undergoes a series of changes from the coccoid, virulent, or "smooth" phase to the bacillary, avirulent "rough" phase. These changes have been divided, on the basis of agglutination reactions, into Phases I, II, III, and IV by P. H. Leslie and A. D. Gardner. Both in culture and in the body the organism tends to become less virulent as it passes from Phase I to Phase IV. Most pertussis antigens in current use are derived from Phase I virulent organisms which are obtained from freshly isolated strains grown on blood-enriched mediums. One exception is the "mucoid substance" described by J. A. Toomey in 1935. This "mucoid substance" is a product of the growth of Phase IV organisms, resembling closely the mucous plug characteristically found in the paroxysmal stage of pertussis. Toomey reasoned that this more severe stage of pertussis would be more rationally treated with a Phase IV antigen than with a Phase I antigen which occurred only in the catarrhal stage. The substance was obtained from old cultures, separated from the bacteria, and injected in 40 milligram doses daily for 4 days. Good results were

¹Read before the Section on Pediatrics of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 3, 1940.

obtained in 80 cases, but Toomey did not feel that he had as yet obtained adequate proof of its value.

The biological products derived from the Phase I organism have been of 4 types; namely, (1) vaccines (Sauer's vaccine), (2) endotoxins (Krueger's undenatured bacterial antigen, and specific soluble antigen), (3) exotoxins (detoxified pertussis antigen), and (4) combinations of above (New York State toxin-vaccine). Both favorable and unfavorable opinions have been expressed as regards the effectiveness of these substances in the treatment of pertussis. However, adequately controlled studies have usually led to unfavorable opinions.

L. W. Sauer does not recommend his own vaccine for therapy. Detoxified pertussis antigen has been recommended by a commercial house which has quoted unpublished data of C. L. Joslin and T. A. Christiansen. These workers in Denmark are said to have reduced the course of the disease to 2 weeks by the use of this antigen. However, a carefully controlled study by N. M. Greenstein and W. A. Levy did not confirm these results, lack of any benefit being noted, especially in young patients with severe pertussis.

Krueger's undenatured bacterial antigen, an endotoxin, was used in 1934 by M. Stallings and V. C. Nichols with good results in 223 patients. However, more recent work has shown no more decrease in the number and severity of paroxysms than might have been accounted for by chance variations. Indeed, P. Cohen and his co-workers found coughing spells to be more frequent with this form of therapy than without it. They reached similar conclusions as to the efficacy of New York State toxin-vaccine.

A specific soluble antigen was used by H. A. Schlesinger in 24 patients in 1935. The antigen was obtained from the supernatant fluid after centrifuging macerated Phase I organisms and was administered intranasally. In 18 of 24 cases improvement was noted. H. Gold reported similar results.

Serum Therapy

Antitoxins and antibacterial sera have been prepared from animals, but have not been widely used because of the severe reactions and the large doses which were required. These disadvantages are not shared by the use of human serum which is available either as convalescent serum or as "hyperimmune" serum. The latter is obtained from adults, preferably those who have had pertussis, and have been given injections of Sauer's vaccine over a period of a year.

This serum may be "lyophilized," that is, desiccated in vacuo, and thus made available for general use. The dried serum is redissolved and injected intramuscularly in a dose of from 10 to 40 c.c. It has proven of value in the hands of A. C. McGuinness, W. L. Bradford, and J. G. Armstrong. Good results have likewise been obtained by P. Cohen and his co-workers in a carefully controlled series. They compared serum with Sauer's vaccine, toxin-vaccine, Bordet's vaccine, specific soluble antigen, and Krueger's antigen, and concluded that the convalescent serum was the only one of value in treatment.

Treatment of 100 Patients

During 1938-1939, 100 cases of pertussis were admitted to the hospital and were followed through the course of their disease. They were divided into 4 groups. Group I was treated by the intranasal instillation of a specific soluble antigen (Topagen), 5 drops being instilled in each nostril every other day for 5 doses. Group II patients were treated with Krueger's undenatured pertussis bacterial antigen given in 6 subcutaneous doses increasing from .25 c.c. to 1.50 c.c., each being accompanied by .10 c.c. intradermally. Group III patients were treated with detoxified antigen, 2 c.c. being injected subcutaneously daily for 5 days. The remaining 26 patients comprised Group IV, the control group.

Supportive treatment including transfusion, fluid administration, rectal ether, and olive oil was given to any patient when indicated, but no other specific treatment was administered. Patients receiving sulfapyridine were not included in the series.

The patients ranged in age from 6 weeks to 15 years, 39 of the hundred being less than 2

TABLE I

COMPLICATIONS PRESENTED IN 123 CASES OF PERTUSSIS

<i>Complication</i>	<i>No. of Cases</i>	<i>Deaths</i>
Bronchopneumonia	42	7
Otitis media	26	0
Convulsions	12	1
Convulsions with bronchopneumonia	7	4
Tuberculosis	2	1
Empyema	2	0
Diarrhea	2	0
Prolapsed rectum and inanition	1	1
Lobar pneumonia	1	0
Furunculosis	1	0
Thrush	2	0
Cervical adenitis	1	0
Bronchiectasis	1	0
Spontaneous pneumothorax	1	0
Pyelitis	1	0
Total	102	14

years old. The number of infants was about equally distributed among the 4 groups with a slight preponderance in the control group. While there was considerable individual variation in the duration of the disease before admission, most of the patients had been coughing less than 2 weeks and the average duration of the cough was about the same for all groups. Most of the patients presented some serious complication on admission since uncomplicated cases of pertussis are not as a rule admitted to the hospital (see Table I).

The number of deaths in the series was 14, with 6 falling in the specific soluble antigen group, 4 in the undenatured bacterial antigen group, 2 in the detoxified antigen group, and 2 in the controls. All except 3 of these cases were excluded from the calculations as they died shortly after admission before a fair trial of the therapeutic agent had been given.

A careful record of paroxysms was kept by the nurse with the supervision of the resident staff. These were classified as mild, moderate, or severe. The number of cyanotic attacks and episodes of vomiting was also noted on individual charts. Using these charts as a guide it was possible to estimate objectively the point at which definite improvement was first noted. The results of these observations, together with the number of days for which cough and vomiting persisted, are tabulated in Table II. It is seen

TABLE II

	No. of Cases	Average Number of Days Vomiting Persisted After Treatment	Average Duration of Cough After Treatment (Days)	Average Number of Days Before Improvement Began
Specific soluble antigen	20	17.5	22.2	11.7
Undenatured bacterial antigen	25	19.8	24.6	15.8
Detoxified antigen ...	29	17.1	27.3	10.3
Control	26	20.0	23.2	11.7

in the table that in both treated and control groups definite improvement begins approximately 2 weeks after admission; vomiting ceases in about 2½ weeks; and cough subsides in about 3 weeks. Due to the great individual variations in the duration of cough and vomiting, comparisons of the actual number of days do not indicate statistically significant differences between the groups. For example, M. McL., age 10 months, coughed 30 days while J. P., age 2 months, treated with the same antigen at

the same stage of the disease continued to cough paroxysmally for 78 days. These wide variations make appraisal difficult.

Conclusions

- 1. Twenty patients with pertussis were treated with specific soluble antigen; 25 with undenatured bacterial antigen; 29 with detoxified antigen. They failed to show improvement as evidenced by decrease in number and severity of paroxysms, duration of cough, and vomiting when compared to a control group of 26 patients.
- 2. Recently published reports indicate that of the various biological products suggested for the treatment of pertussis, some form of convalescent serum used early in the disease offers the best chance of success.

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ABSTRACT OF DISCUSSION

PERCIVAL NICHOLSON (Ardmore): The general public and some physicians underestimate the seriousness of pertussis, failing to realize the dangers of its complications, especially in the young infant. Emphasis should be placed on the fact that while scarlet fever is rarely seen under 6 months of age, and infants have an immunity to diphtheria for the same period, in the case of whooping cough there is a very high susceptibility to the disease from the hour of birth. At least 75 per cent of exposed contacts develop pertussis.

Dr. Lucchesi in his carefully controlled study of the practical value of antigens and vaccines as a means of treatment for whooping cough has very conclusively shown their failure as practical therapeutic agents. Widely used medical agents are often found to be useless when a carefully controlled study is made.

The treatment of pertussis, however, is not hopeless. Dr. Lucchesi touched on one hopeful aspect of the subject—the use of immune blood serum, pooled adult blood serum, and hyperimmune blood serum. These afford a very satisfactory means of producing passive immunity in exposed cases when given within the first 6 days after exposure. McGuinness et al. found that 78.3 per cent of susceptible contacts injected with hyperimmune serum failed to develop whooping cough.

In the treatment of 100 infants and children (51 under 6 months) treated with hyperimmune serum, there were excellent results in 32 cases, good results in 31, moderate in 20 cases, and questionable results in 14. There were only 3 deaths in the series.

Along similar lines, since 1934, I have treated cases of pertussis with large doses of pooled adult blood plasma, both prophylactically in exposed cases and therapeutically in those who had contracted the disease. This treatment produced results quite as satisfactory as those reported by McGuinness et al. with hyperimmune serum, and has certain very decided advantages.

Pooled adult blood plasma is easily obtained and can be given in large doses, either intramuscularly or intravenously, without any danger of reaction. Dried blood serum, however, when given in large doses intravenously, often produces serious reactions. Blood plasma

can be dried as easily as serum and the percentage yield is higher.

By giving large intravenous injections in the treatment of pertussis, often as high as 250 c.c. daily for from 1 to 3 injections, results can be obtained that even hyperimmune serum could not equal, because of the danger of serious reactions. Even if reactions were avoidable, the expense of using large doses of hyperimmune serum would be prohibitive.

Pooled adult blood plasma, being readily obtained without the necessity of special inoculations of donors, does not require 13 months for its preparation, and is much less expensive than even small doses of hyperimmune serum.

Blood plasma can be prepared in dried form, is easily stored, and is readily obtainable in localities where modern laboratory facilities are not available. If in the case of a child having whooping cough the parents and their friends who have had pertussis act as donors, a supply of blood plasma is easily obtained at very little expense to either the patient or the hospital. Pertussis being such a universal disease, suitable adults who have previously had whooping cough are easily obtained.

Hyperimmune blood serum has a higher titer of immune bodies of pertussis than pooled blood plasma, but this is easily compensated for by giving larger doses of the much more readily obtainable and cheaper blood plasma. Large doses of pooled blood plasma furthermore not only supply specific antibodies of pertussis but also nonspecific antibodies (complement) and are of great value in cases of pertussis with associated serious complications, supplying blood proteins.

In the prevention of whooping cough in unexposed infants and children, I wish to emphasize, as Dr. Lucchesi has, the value of active immunization by means of suitable doses of pertussis vaccine prepared by the Sauer method.

AIMS C. MCGUINNESS (Philadelphia): I am afraid I have to differ with Dr. Nicholson in a few minor points. As far as Dr. Lucchesi's paper is concerned, I should be very much interested to know how many of his 114 cases were 6 months of age and under, and how many of the 14 deaths were in that age group. Everybody recognizes the great difficulty in evaluating any therapeutic measure in the treatment of whooping cough. We feel that we have had quite good results with the hyperimmune serum which has been discussed. We believe that eventually our best standard will be mortality in the age group of 6 months and under. In that particular age group various authorities report mortalities varying from 30 to 50 per cent.

We now have 80 infants 6 months of age and under who have been treated with hyperimmune serum after the onset of catarrhal symptoms. There were 3 deaths in this series of 80 cases, all 3 infants were 2 months of age, and all 3 were practically moribund with bron-

chial pneumonia at the time the treatment was instituted. If we could get several hundred cases in the 6 months and under age group with a mortality of under 4 per cent, we believe that we would have the best type of evidence for the effectiveness of the hyperimmune serum.

Dr. Nicholson mentioned the fact that the difference in antibodies is made up for the increased volume that can be administered when plasma is used. He believes that there is less chance of reaction when plasma is used. I do not agree with his statement that pooled liquid serum very often gives reactions. Vacuum-dried serum frequently has caused reactions when injected *intravenously*, although when injected *intramuscularly*, reactions are negligible. Vacuum-dried plasma apparently does not give these reactions. Liquid serum which has not been dried, particularly pooled serum, gives different results. I think much of the reaction that follows the injection of serum intravenously is due to the fact that it is not pooled serum. It has been very clearly shown by Thalheimer and others that when a large pool of perhaps 50 donors is used, the type-specific antigens will neutralize one another, so you will have virtually no antigens for your A and B agglutinins. Therefore, if you use serum in large pools, you do not get the reactions you very often get in serums from small pools where, say, 5 donors contribute. If you have 5 donors, it is possible that 4 out of 5 may be type 3. If you give that pool to a type 2 individual, of course you will get a reaction. In the large pools that factor is eliminated.

Very careful experiments have been carried out with various therapeutic agents in mouse pertussis. These agents include various members of the sulfanilamide group, hyperimmune serum, and normal pooled serum, which, from the point of view of antibody content, is no different from pooled plasma. In this work which was carried out by Drs. Katsampes and Bradford of Rochester, N. Y., the hyperimmune serum gave the best results by far.

The minimum agglutination titer in the hyperimmune serum is 1 to 1260. That is of interest when we realize that a high agglutination titer in convalescent serum would rarely go over 1 to 300.

DR. LUCCHESI (in closing): I merely wish to say that, in this group of patients, 39 are less than 2 years of age, as I have already mentioned.

The question may also be brought up that the type of case treated at the hospital does not represent the usual type of case treated at home. That is true, because the type of case coming to the hospital is usually more seriously ill. The type that stays home is usually mild or moderately ill at least. Therefore, the trial of these products should be more thorough in the type of case that comes to the hospital, that is, the most seriously ill with the various complications.



Bladder Neck Obstruction in the Female

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IN MALES, obstructions at the bladder neck, of the median bar type, have been recognized and reported for many years. Similar obstructions in the female bladder with attending symptoms were first called to our attention by Caulk in 1921. He reported one case at that time and suggested that the condition was probably not rare but not commonly looked for and therefore not recognized. Caulk has more recently reported further experiences with the same condition.

During the past 19 years there have been several contributions to the literature with case reports on this type of pathology. Gershom Thompson of the Mayo Clinic reported his experiences with 24 such cases before the meeting at Quebec of the American Urological Association. He had previously reported on the same subject. Hicks discussed the subject with a report of 3 cases, Van Hutum reported 6 cases, Nesbit 3, Winsbury-White 2. Hugh Young discussed "Vesical Neck Obstruction in Women" in a paper before the Urologic Section at the recent meeting in New York City of the American Medical Association. As far as we know, this is the first paper on the subject before this group.

It is our intention to limit discussion in this paper to cases with residual urine secondary to obstructions within the bladder neck. We do not include cases of urinary retention associated with various tumors of the adnexa, appendiceal abscess, cystocele, neurologic and hysterical conditions. We have noted retention of urine in the female associated with all of the above conditions.

We have seen 5 cases of bladder neck obstruction in the female in the past 4 years, and it is our experience with these cases that has prompted the preparation and presentation of this paper.

As far as etiology is concerned, the sections of tissue which we removed and examined showed fibrosis, round cell infiltration, and epithelial hyperplasia. None of our sections showed any glandular elements. Young in his

discussion of the subject supports the contention that there is glandular tissue in the female bladder neck. In his presentation at the American Medical Association meeting, he showed several slides with such glands in tissue resected from the female bladder neck. He also showed a photograph of a female bladder removed post mortem in which there was a very definite prostate gland. He suggested that the hypertrophy is due to enlargement of glandular tissue which is the vestigial remains of a prostatic growth tendency in the female. Gershom Thompson, on the other hand, reports that not any of the sections removed in his 24 cases showed any glandular tissue. The histologic structure of the tissue he removed showed an increase in the fibrous elements, and in some sections there was marked muscular hypertrophy.

Braasch and Thompson suggested that there might be a nervous imbalance between the sphincter and the detrusor muscles leading to a spasm of the sphincter and subsequent hypertrophy; however, cystometric study in Thompson's series of cases failed to reveal any neurogenic disturbance.

Narrowing of the urethral meatus, as frequently seen in older females, has no bearing on the bladder neck condition. We all frequently see females with urethrae that must be dilated before the average sized cystoscope can be introduced. There is no association between the 2 conditions.

Not any of our cases had cystocele.

The fact that 2 of our cases were in young girls 14 and 15 years of age with a history of bladder symptoms for several years suggests that there is possibly an inherent condition in the tissues of the bladder neck that predisposes to obstructive pathology.

From the numerous cases of chronic urethritis observed in the female and from the relatively few cases of bladder neck hypertrophy, we can hardly draw any etiologic association. Nor does trauma or upper urinary tract infection offer any plausible etiologic factor. We might say that the etiology is about as obscure as it is in the

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median bar type of bladder neck obstruction in the male. We just know that it occurs and the cause is conjectural.

As would be expected, this condition is more frequent in women past age 40. This has been the experience of most of the case reporters. Our experience has been somewhat eccentric in this regard. The ages of our patients were 14, 15, 26, 66, and 73—3 of them under age 40.

The symptoms are not unlike those complained of by the male with bladder neck obstruction. There is dysuria, frequency, enuresis, fever, chills, pyuria, hematuria, and symptoms resulting from involvement of the upper urinary tract. The youngest of our patients, the 14-year-old girl, complained of nocturnal enuresis as far back as she could remember. Her condition was discovered during a routine examination of a number of youngsters turned over to the urologic service for study because of bed-wetting. She had also experienced periodic attacks of obscure fever over a period of several years. Urinalysis done periodically showed pyuria occasionally but not constantly.

The chief complaint of the 15-year-old girl, the next oldest in the series, was that of chills, fever, and pain over the left kidney area. Urologic examination revealed a large pyonephrosis on the left side associated with a large distended bladder. A nephrectomy was indicated and performed. The patient experienced an uneventful recovery with the exception of a persistent urinary drainage from a fistula in the operative scar. It was noted that when an indwelling catheter was left in place the fistula would heal, but when the catheter was removed the tissues again broke down and the fistula was again re-established. This led to the diagnosis of obstructive bladder neck pathology which was repaired and the fistula was corrected.

The 26-year-old patient complained of nocturnal and occasionally diurnal enuresis, which we later decided was due to overflow. These symptoms had been present for 3 years with various unsuccessful attempts to correct them. Although this patient had been on our service previously for the same complaint, and even though cystoscopic examination was made, we failed to recognize the difficulty at the former visit.

The 2 oldest patients had symptoms for many years. Their ages were 66 and 73. The 73-year-old patient required catheterization many times during her years of bladder distress. The first time she was catheterized was about 15 years previously. This was the only patient in our series who experienced complete obstruction. In

Gershom Thompson's series of 24 cases, 18 experienced complete retention before operation. A diagnosis of obstruction was made in 3 of our cases previously because sounds had been used for dilatation. None of them experienced any relief from this type of treatment.

Blood chemistry studies revealed no retention of urea or creatinine. With the exception of the blood chemistry, indigo carmine was the only kidney function test performed and that was considered normal in all cases except the pyonephrotic kidney previously referred to. Most other reports seem to confirm this type of finding.

Residual urine varied from 200 to 700 c.c. The 2 youngest patients had the greatest amount of residual urine. This is not at all out of line with observations in the male with median bar type of obstruction. The greatest retention of urine that we had ever observed was in a young man of 26 who had urinary difficulty since birth. He had a median bar type of obstruction with an enormous amount of residual urine.

One of Gershom Thompson's cases had 1350 c.c. of residual urine and one of Van Hutum's had 1500 c.c. Most of the cases reported had between 150 and 600 c.c. of urine.

In 2 of our cases the amount of residual urine varied during various estimations and we have reported the maximum amounts observed.

Four of the cases were discovered following intravenous study. The condition was not diagnosed previously. In the one case, persistence of the urinary fistula following nephrectomy aroused suspicion.

Cystoscopic examination of the bladder neck reveals nothing absolutely diagnostic. All of the cases showed what appeared to be hypertrophy of the bladder neck with a rather precipitous descent of the posterior bladder wall, but this has been noted in other bladders without attending retention, so that we personally discredit anything diagnostic about the appearance of the bladder neck.

In every one of our cases there was hypertrophy of the interureteric crest. All cases showed various degrees of coarse trabeculation, a tendency toward cellule formation, and various degrees of inflammation. One of our cases, the oldest one, had 2 small retention diverticula in the region of the right orifice. The cystoscopic changes can be summed up by saying that these changes are exactly like those found in the male secondary to bladder neck pathology. The cystoscope is only of diagnostic value in noting the bladder changes secondary to chronic distention. Thompson stated that he could note in some

cases a definite collar of tissue about the bladder neck when examined with the retrograde lens. We have never used the retrograde lens in the study of these cases.

It is generally accepted that the only worthwhile treatment in these cases is resection of the obstructing tissue. Bladder lavage and dilatation previous to resection offer nothing to improve the condition.

The results of resection are sometimes spectacular. Very little tissue removed, usually 2 grams or less, will relieve the obstruction. One, of course, is rather timid in resecting the female bladder neck because of danger of injury to the sphincter and because of the possibility of a vesicovaginal fistula. There was no postoperative incontinence in any of our cases nor was there any fistula. No such complications were noted in the other reports.

In our work we have always used the McCarthy resectoscope under low spinal anesthesia. Much smaller pieces of tissue are removed than is the custom in resecting the male. We have not taken tissue from the entire vesical neck as suggested by Thompson. We have limited our resection to the posterior margin and have observed adequate correction of the difficulty.

Although we have no experience with the Nesbit trigger type of resectoscope, it suggests itself as the ideal instrument to use in this type of case. One or 2 fingers of the left hand can be kept in the vagina while the operation is carried on with the right hand, and the operator is continually conscious of the amount of tissue intervening.

The results of our treatment have been quite satisfactory. The 14-year-old girl with enuresis and 700 c.c. of residual urine had entire relief. The patient was an inmate of an orphanage for several years. Although she was a candidate for adoption several times, she was always refused because of bed-wetting. Shortly after the correction of the bladder neck obstruction, she was accepted by an adopting agency. Periodic check-up reveals an entirely satisfactory result. Three of the other patients also experienced relief from symptoms following treatment. The 73-year-old woman with the diverticula was such a poor risk that nothing other than an indwelling catheter was attempted.

Postoperative treatment is quite simple. Very little bleeding is experienced; however, Young suggests a Foley hemostatic bag postoperatively. We have used a winged type of female retention catheter. Not any of the patients suffered any serious postoperative effects. The retention cath-

eter was left in place 48 hours and within 4 days the patients were up and around.

As yet, none of our cases have had to have a subsequent resection done. Of course, the lapse of time is not yet sufficient for enthusiastic conclusions. In Thompson's series of cases he reported that 14 had excellent results, 5 good, 4 fair, and one poor.

It is our belief that female bladder neck obstruction occurs more frequently than has been reported. Undoubtedly many physicians have treated such cases without reporting them.

ABSTRACT OF DISCUSSION

PETER P. MAYOCK (Wilkes-Barre): It is now 19 years since Caulk first brought to our attention the fact that bladder neck obstruction such as we are so familiar with in the male may also occur in the female.

Dr. Baurys' presentation of 5 cases, all observed by him in the past 4 years, is significant that the condition is not as rare as many think, but it is not discovered because it is not thought of or looked for. In looking for bladder neck obstruction in the female, too much reliance should not be given to the cystoscopic appearance of the internal urethral orifice, as frequently it is misleading. Often the direct vision and lens cystoscopes show no definite obstruction, and even with the retrograde lens a definite bar of tissue is not always apparent, yet a fixation such as is seen in the male can usually be determined. The well-known and easily recognized secondary changes in the bladder such as coarse trabeculations, cellules, or diverticula, hypertrophy of the interureteric ridge, and the presence of residual urine are all important findings in arriving at a diagnosis, and this composite picture should be thoroughly considered together with cystometric studies before bladder neck obstruction should be excluded. Sections of the tissue removed from our cases parallel Dr. Baurys' findings. We have not found any glandular hyperplasia as recently reported by Dr. Young. We use the McCarthy resectoscope and confine our cutting to the posterior margin.

JAMES F. MCCAHEY (Philadelphia): The question of the possible presence of prostatic gland tissue in women is of great interest. Dr. Baurys has mentioned the case of a prostate in a female which Young reported at the last session of the A. M. A. As I remember it, this woman was a female pseudohermaphrodite with a cortical adrenal tumor. The presence of a prostate in cases of this kind may be explained as due to a masculinizing influence which was active during early fetal life; individuals so affected also have other deformities which may be similarly explained, such as male-like configuration of the external genitalia due to masculinization of the urogenital sinus during its period of development.

This condition of fetal masculinization is analogous with masculinization which may affect females after birth, except, of course, that in the fetal form the susceptible structures are affected during their formative stage.

While it seems unlikely that a fetal masculinizing factor could bring about the development of prostatic rudiments without also altering other susceptible struc-

tures, it must also be recognized that too little is known of this matter to warrant dogmatic statements in this regard. However, the fact that Dr. Baurys did not find prostatic gland tissue in the pieces removed from the bladder in his cases is an interesting contribution to this subject.

LEON HERMAN (Philadelphia): I believe that I was one of the first to resect a typical bladder neck obstruction in the female. This particular patient had 20 ounces of purulent residual urine and a markedly trabeculated bladder. The ureters opened into diverticula on each side, and the right kidney was pyonephrotic. After removal of the latter, we resected a thick fibromuscular bar at the vesical outlet, and the patient had a good clinical result.

PHYSICAL THERAPY IS IMPORTANT IN THE TREATMENT OF ARTHRITIS

Although physical treatment of the many types of arthritis never should be used to the exclusion of other therapeutic procedures, it plays an extremely important part in the modern treatment of the disease, and most of its various forms, with a little ingenuity, can be applied in the patient's own home, Frank H. Krusen, M.D., Rochester, Minn., declares in *The Journal of the American Medical Association* for Aug. 24. Publication of his article has been authorized by the Council on Physical Therapy of the Association.

Arthritis is the oldest known disease of man, evidences of it being found in the skeletons of men of the Stone Age. It is one of the most common and disabling of all chronic diseases, especially in regions where the climate is damp and variable. The majority of cases develop in young adults, are most incapacitating during middle age, and do not shorten life.

"Whereas it is possible to bring great benefit to the patient who has arthritis by the utilization of certain simple physical measures as a part of the home treatment," Dr. Krusen says, "such procedures can be used to greatest advantage only when they are made a part of a well-planned program of general treatment."

He points out that after the physician has determined which form of arthritis the patient has he should map out a program which may include not only physical therapy but also such measures as elimination of trauma, dietetic management, surgical removal of foci (of infection) or other surgical measures, administration of analgesics and other drugs, and the selection of the proper climate in which the patient should reside. The progress of the case often is determined by the mental attitude of the patient, since methodical exercising of the involved joints, in spite of the pain it causes, may eventually result in useful joints, whereas those who seek "comfort" often become disabled early. For this reason Dr. Krusen also lays stress on the value of psychotherapy in the general program of treatment.

He points out that there are 3 groups of physical measures which may be employed: thermal; massage, manipulation, and splintage; and exercise, postural training, and rest. Methods of carrying these out in the home are extremely important, for not all patients may be hospitalized, and those who have been hospitalized may lose the benefits of treatment unless, on their return home, steps are taken to continue the treatment.

For thermal treatment there are many simple devices and methods, such as a clamp lamp to be fastened to

Before doing this I inquired from various urologists throughout the country their experience with the condition, and none of them had had any personal experience with similar cases.

Since then we have operated upon a number of these patients. In one instance total urinary obstruction in the female was due to widespread cystic degeneration at the vesical outlet, and resection was done satisfactorily.

There is much to be learned from the etiologic and pathologic standpoint about bar obstructions in women. The danger of urethrovaginal fistula following resection is great in the case of patients who have had radium applications in the treatment of cervical carcinoma. The only fistula I have encountered personally occurred under these circumstances.

the back of the chair, the edge of a table, or the side of a bed; a homemade "baker" consisting of curved sheet tin with electric sockets attached to the under surface, hot paraffin packs, natural or artificial sunlight, wet packs, and tub baths (usually hot). Immersion of the affected part alternately in cold and hot water is an effective procedure.

Turning to the second group of physical measures, Dr. Krusen emphasizes the importance of massage, maintaining that it is a good plan to instruct a member of the patient's family in a simple routine to be employed daily in addition to professional massage.

Manipulation of the affected joint is of great value in preventing stiffness. Dr. Krusen stresses in particular the value of "active assistance" movement of the joint, consisting of heat and gentle massage followed by the patient's effort to move the joint through its full range of motion slowly and rhythmically, with assistance from the operator in extending the movement beyond the voluntary range. Splints are an important aid in preventing deformities. Bandages and elastic supports may be helpful, and the patient should wear well-fitting, stiff-shanked shoes instead of loose bedroom slippers.

At the earliest possible moment the patient should begin voluntary active exercises, although if such motion is started too soon pain and muscular spasm will result. One slow movement through the full range is preferable to many "wiggles" through partial range. Postural exercises may be valuable in maintaining the best possible alignment of joints. Underwater exercises are often beneficial.

"Many simple devices commonly found in the home may be employed to advantage to strengthen muscles and increase motion in joints by providing certain exercises as part of the occupation," the author says. "Occasionally a velocipede jig saw and in its absence an ordinary bicycle with the rear wheel jacked up may be used to increase range of motion in the knee, hip joint, or ankle. When the ankle alone needs exercise, work with a foot-power sewing machine or foot-pedal scroll saw may provide the necessary exercise. Clay modeling or the use of a plane or hammer may be useful in mobilizing stiffened fingers and wrists. Basket weaving has been recommended for exercising the shoulder, elbow, or upper portion of the back."

Rest is of cardinal importance during the stage of acute inflammation but should not be continued indefinitely. The patient should avoid fatigue but not remain at absolute rest.

ONLY MEN FITTED FOR FULL DUTY WILL BE INDUCTED INTO THE ARMY

"It is the present intention of the armed services to accept for induction only those men who are fitted for full duty," Lieut. Col. Charles B. Spruit, M.D., of the Army's general staff, assigned as medical adviser to the Joint Army and Navy Selective Service Committee, Washington, D. C., declares in an article on "Medical Participation in Selective Service," in *The Journal of the American Medical Association* for Sept. 28.

"The physical standards of Selective Service," he continues, "therefore, will be those of the using services, which in the case of the Army are substantially those now governing enlistments.

"Many physicians in the Selective Service process will be confronted with a new criterion of judgment. The physician in civil life is concerned in treating his patients so that they may continue their present modes of living and physical behavior. The criterion of judgment of Selective Service is that the man shall be capable of performing full military service in any type of organization.

"Inauguration of Selective Service brings a new responsibility to the medical profession and another opportunity of service to the nation. The rôle of the physician in the Selective Service mechanism will be to examine, to find, to evaluate, and to recommend. The local board and the appeal board will determine the final classification of all registrants. It is believed that the participation of the physician of the community in determining the physical qualifications of registrants will promote confidence in the fairness of the system and permit of a much more accurate determination of the ability of a man to perform military service. The intimate knowledge that the local physician has of the members of his community should be of marked assistance not only in the determination of physical fitness but also in the detection of malingering on the part of the men seeking to evade service."

Explaining the medical setup, Col. Spruit says: "The physical examinations of Selective Service will be made by local examining physicians, who act as agents of the local boards for this purpose. When necessary, additional examining physicians may be appointed by the local board.

"Medical advisory boards will be appointed by the President, on the recommendation of the state, to provide an agency of advice and assistance to examining physicians and to assist appeal boards in determining matters of physical fitness which have been appealed from the decision of the local board by the registrant or by the government agent. The medical advisory boards will as far as practicable comprise internists, ophthalmologists, otolaryngologists, orthopedists, surgeons, psychiatrists, clinical pathologists, radiographers, and dentists."

For each state the President will designate one or more officers of the Medical Reserve Corps of the Army and Navy as medical assistants on staffs of the several governors. They will assist the state authorities in the supervision and co-ordination of medical examinations throughout the state and will keep the necessary records and statistical analyses of the operation of the medical function of Selective Service within the state.

In conclusion, the Colonel points to some of the intangible benefits of Selective Service. He says:

"It is expected that the analyses of the reports of physical examinations and other records of Selective

Service will make available many new data of sociologic and medical importance. The occurrence of disease and disability as to character, locality, age group, color, and nativity will give us a new measuring stick by which to judge the efficacy of the many and varied health programs that we have carried on in the past 20 years and will assist in the preparation of new plans for the future. These analyses will further disclose the physical fitness of the new generation and provide us with a current and more accurate measure of the available manpower of the country against 'the day' we pray may never come."

A. M. A. MEDICAL PREPAREDNESS SURVEY 52 PER CENT COMPLETE ON SEPT. 6

"On Sept. 6 the Committee on Medical Preparedness of the American Medical Association had received 93,437 schedules from physicians throughout the United States and its outlying territories. This number represents 52 per cent of the 179,796 schedules which were mailed to physicians in July," *The Journal of the association* reports in its Medical Preparedness Section for Sept. 14.

"The response of physicians in different states showed a wide variation, from 83.2 per cent in Nebraska and 85.8 per cent in the Canal Zone to 38.5 per cent in New Mexico and 0.08 per cent in the Philippine Islands. Thirty-eight states showed more than 50 per cent of questionnaires returned.

"Now that the vacation season is nearing its close, some physicians may be expected to return the schedules which have been awaiting their return.

"Changes of address should be reported promptly to the Directory Department of the American Medical Association so that the Committee on Medical Preparedness can supply schedules to physicians who could not be reached on the first mailing.

"The first 50 per cent of returns represent a prompt and willing response from the physicians in all parts of the nation. It is earnestly hoped that the second 50 per cent will respond without delay."

MEDICAL REGIMENT MARCHES 3000 MILES

"The First Medical Regiment, which for 18 years had been stationed at the Field Service School at Carlisle, Pa., arrived in Camp Ord, California, June 28, after having marched 3102 miles in 14 days," *The Journal of the American Medical Association* for Sept. 21 reports in its Medical Preparedness Section. "The regiment averaged more than 250 miles each marching day and on some days made more than 300 miles. Almost the entire distance was made over U. S. Highway 40, although U. S. Highway 30 was followed through the mountains. The regiment consisted of 7 officers of the medical corps and 180 enlisted men under the command of Lieut. Col. Robert P. Williams. The march was made without a single serious injury and only one slight accident to a motorcycle sergeant, who was struck by a civilian car."

EDITORIALS

THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of the federal government under which shall be co-ordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.

2. The allotment of such funds as Congress may make available to any state in actual need, for the prevention of disease, the promotion of health, and the care of the sick on proof of such need.

3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.

4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.

5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.

8. Expansion of public health and medical services consistent with the American system of democracy.

NO THIRD TERM

The "constitutionalists" in the 1919 House of Delegates of The Medical Society of the State of Pennsylvania in their wisdom made it impossible for a member of the society to be elected to succeed himself as a member of the society's Board of Trustees after he had served 2 successive terms of 5 years each. As a result, a number of our "tried and true" members who have been elevated twice to the high and exacting office of trustee and councilor have, at the end

of 10 years of service, gracefully retired to other activities in medical organization, bearing with them the gratitude of many.

Oct. 2, 1940, brought such honorable retirement to Dr. Alexander Hamilton Stewart of Indiana County, who had been elected trustee and councilor representing the Ninth Councilor District of The Medical Society of the State of Pennsylvania by the House of Delegates at Johnstown in 1930 and again at Harrisburg in 1935. Dr. Stewart's history of service with the Board of Trustees discloses an unbroken record of attendance at all board meetings held during a decade.

Other officers will recall occasions when traveling at ease by train to their destinations from meetings of the Board of Trustees in Harrisburg of bidding Dr. Stewart farewell at Johnstown, from which point he completed his journey motoring 30 miles by night, under varying weather and highway conditions, to his home town, Indiana.

Dr. Stewart's discharge of his duties as district councilor, no doubt in line with the multiple requirements of Section 8 of Chapter V of our By-laws, is best known to the membership of the 6 county medical societies comprising the Ninth Councilor District. In any event, his service to them was enhanced by the experiences of his 10-year secretaryship in his own county society, just as his present incumbency as deputy secretary of the Pennsylvania Department of Health has unquestionably been strengthened by his long years in contact with local health problems while serving as the district health officer of Indiana County.

We are confident that Dr. Stewart, in spite of retirement from county and state medical society official connections, will continue to "run to all fires" in response to calls from his successors for advice and encouragement.

VALUES IN CEREMONY

If we interpret correctly the comments under the above caption appearing in a recent issue of the *Pittsburgh Medical Bulletin*, the editor of the latter publication was mildly scolding the program committee, and possibly the Board of Di-

rectors, of the Allegheny County Medical Society for not more or less formally observing each year the inauguration of the society's incoming president. He made reference also to the fact that the Philadelphia County Medical Society and The Medical Society of the State of Pennsylvania have for many years annually observed in fitting style the first meeting presided over by their respective incoming presidents. The editor indicated that he believed that medical societies failing to give formal recognition to a new president may be "losing something through failure to observe more or less impressively the organizational ambitions and hopes ordinarily expressed by the democratic process of choosing annually a new leader."

Inclined as we are to sympathize with the position taken by Editor Donaldson we herewith bring this ceremonial topic to the attention of all component medical societies, at the same time fully expressing the opinion that any physician entrusted with such administrative leadership is entitled to a dignified but enjoyable and interesting "send off" on the occasion of the first meeting of the society over which he is to preside throughout his term of office.

RED CROSS PUBLIC HEALTH NURSES ACTIVE DURING PAST YEAR

Last year the Red Cross public health nursing service reported 7427 nursing months. Altogether 366 chapters conducted 459 different services. At the end of the year 638 nurses were on duty.

The total number of visits made by Red Cross public health nurses was 1,038,363, while the number of cases handled aggregated 334,194. They further assisted at 16,442 clinic sessions at which the physician or nurse examined 618,623 children.

One form of this Red Cross activity is the so-called itinerant service, in which a public health nurse is assigned to an isolated area for 2, 3, or 4 months, to return the following year. One such service has been operating in Vallecitos in the mountains of New Mexico. When the Red Cross nurse took up her duties, she organized classes in home hygiene and first-aid.

Red Cross public health nursing is but one of many services. The medical world has long been acquainted with the Red Cross and has been a consistent supporter of the organization. During the forthcoming Roll Call, to be held

Nov. 11 to 30, physicians are invited to join their local Red Cross chapter and thus signify their continued support.

THE 1940 SESSION

From Sept. 30 to Oct. 3, Philadelphia, the most historic city in the United States, was again the scene of the annual session of The Medical Society of the State of Pennsylvania. This was the twenty-fifth time in 90 years that the Philadelphia County Medical Society has been host to the State Medical Society. THE PENNSYLVANIA MEDICAL JOURNAL extends congratulations to the Philadelphia County Society and to everyone who had a hand in making this meeting a success. The Committee on Arrangements and its chairman, J. Hart Toland, deserve much credit.

Installation Meeting

For the second consecutive year the installation exercises were held on Tuesday evening. Two thousand persons attended this meeting, which was held in the Academy of Music. Beginning at 8 o'clock, the meeting was opened with selections by members of the Philadelphia Orchestra. At 8:30 p. m. President Charles H. Henninger, Pittsburgh, called the meeting to order and presented Reid S. Dickson, D.D., general secretary, Board of Pensions, Presbyterian Church, U. S. A., who gave the invocation. The audience remained standing to sing "America." This was followed by the report of the Committee on Necrology which was read by the chairman, M. Fraser Percival, Philadelphia. The deaths of 174 members were reported by the committee.

Addresses of welcome were given by Hon. Robert E. Lamberton, Mayor, City of Philadelphia, and Edward L. Bortz, president of the Philadelphia County Medical Society. J. Hart Toland, Philadelphia, chairman of the Committee on Arrangements, announced the entertainment program for the duration of the convention. Charles L. Brown, Philadelphia, chairman of the Committee on Scientific Work, presented the report of this committee. Fred D. Weidman, Philadelphia, co-chairman of the Committee on Scientific Exhibits, spoke briefly concerning the 1940 Scientific Exhibit.

The gavel of the retiring president was presented to Charles H. Henninger by past-president Moses Behrend, Philadelphia, on behalf of the Board of Trustees.

Francis F. Borzell, Philadelphia, was installed as president and delivered the presidential address entitled "Lest We Forget." This address has been printed in the October issue of THE PENNSYLVANIA MEDICAL JOURNAL, and it should be read carefully by every member of the society.

Following Dr. Borzell's talk, the members of the Philadelphia Orchestra gave a selection which was followed by several dance routines by the Arthur Murray Dancers. Russell Pratt, humorist of the N. B. C.'s Artists' Service, entertained the audience with a talk on "The Present Trend Toward Socialization of Medicine." The program was concluded with a selection by the orchestra.

Elections

The House of Delegates on Wednesday morning, Oct. 3, elected the following officers: President-elect, Lewis T. Buckman, Wilkes-Barre; first vice-president, J. Hart Toland, Philadelphia; second vice-president, Christian Gruhler, Shenandoah; third vice-president, Walter S. Brenholtz, Williamsport; fourth vice-president, Walter J. Stein, Ardmore; secretary, Walter F. Donaldson, Pittsburgh (re-elected for the twenty-third time); assistant secretary, Henry G. Munson, Philadelphia (re-elected); treasurer, John B. Lowman, Johnstown (re-elected); speaker, House of Delegates, Truman G. Schnabel, Philadelphia (re-elected); vice-speaker, House of Delegates, George R. Harris, Pittsburgh (re-elected). John J. Brennan, Scranton, having served one term of 5 years as trustee and councilor for the Third Councilor District, was re-elected for another term; and Frank A. Lorenzo, Punxsutawney, was elected trustee and councilor for the Ninth Councilor District, to succeed Alexander H. Stewart, Indiana, who had served 2 terms of 5 years each and was not eligible for re-election.

Board of Trustees

Following the election meeting of the House of Delegates, the Board of Trustees met in its annual reorganization session. Robert L. Anderson, Pittsburgh, was elected chairman, to succeed Edgar S. Buyers, Norristown. Frank A. Lorenzo, Punxsutawney, was elected clerk, to succeed Laurrie D. Sargent, Washington. Frank C. Hammond, Philadelphia, and Lester H. Perry, Harrisburg, were continued as editor and managing editor respectively.

Scientific Program

The scientific program was outstanding. The 11 nationally known out-of-state speakers gave

very interesting papers as did the speakers from our own society. The Section on Clinical Laboratory Medicine was inaugurated at this session. Charles L. Brown, chairman, and the members of the Committee on Scientific Work are to be congratulated on the fine program they presented to the membership. It is regretted that more of the physicians who registered did not take advantage of these excellent meetings.

Scientific Exhibit

The Committee on Scientific Exhibits, under the direction of Fred D. Weidman and Jefferson H. Clark, co-chairmen, presented an excellent scientific exhibit. This year's exhibit was segregated into 2 parts; one part was open only to physicians, while the other was open to the public.

Technical Exhibit

The Technical Exhibit was the largest in the history of the society. Seventy-five commercial firms exhibited their products to the physicians in attendance. It was very gratifying to the convention management to see the sincere support that the members gave this exhibit.

President's Reception

The outstanding social event was the president's reception, held in the Rose Garden on the eighteenth floor of the Bellevue-Stratford Hotel on Wednesday evening, Oct. 2. Dancing to the strains of Frassetto's orchestra followed the colorful reception.

Golf Tournament and Dinner

On Monday the fourteenth annual tournament of the Golf Association was played at the Merion Cricket Club. There were 102 entries from all corners of the state.

The dinner, attended by 243 golfers, officers, and members of the House of Delegates, was served at 7:30 p. m. in the clubhouse. The State Society again had complete charge of this function. An unusually enjoyable evening was experienced by all those in attendance. The members of the golf committee, are to be congratulated on the splendid arrangements.

The following officers were re-elected for 1940-41: President, Frank A. Lorenzo, Punxsutawney; vice-president, Harry O. Pollock, Turtle Creek; and secretary, J. Harrison Tate, Erie.

The prizewinners, who were announced during the dinner, are as follows: Low gross, 18 holes—Stanley Q. West, Wissahickon; low net, 18 holes—Arthur H. Hopkins, Philadelphia;

low net, 36 holes—Robert M. Wolff, Lebanon; and low gross, 36 holes—Clarence E. Moore, Harrisburg.

Woman's Auxiliary

The Woman's Auxiliary to The Medical Society of the State of Pennsylvania report a splendid meeting. Their sessions were held at the Ritz-Carlton Hotel directly across the street from the Bellevue-Stratford. Mrs. Maxwell Lick, Erie, was installed as president succeeding Mrs. John H. Doane, Mansfield.

This was the sixteenth annual session of the State Auxiliary. There were 408 women registered.

Next Session

The ninety-first annual session will be held at the Hotel William Penn, Pittsburgh, from Oct. 6 to 9, 1941. It is hoped that this meeting will break the registration record set at the 1940 session. Make your plans now to be in Pittsburgh next October. Five days is little enough time to spend during the year in furthering your education and renewing acquaintances within your profession.

LEWIS L. ROGERS, JR., M.D.

Dr. Lewis L. Rogers, Jr., of Wilkes-Barre, leading roentgenologist in that city, and the first physician in Wilkes-Barre to have devoted his practice exclusively to this specialty, died Aug. 11, 1940, aged 50.

Dr. Rogers was born in Kingston, Sept. 12, 1889, a son of Dr. L. L. and Mollie (Cushing) Rogers. He received his premedical education at Wyoming Seminary, Kingston, and was graduated from the University of Pennsylvania School of Medicine in 1913. After serving an internship at the Wilkes-Barre City Hospital, he entered general practice at Kingston.

Dr. Rogers enlisted in the U. S. A. Medical Corps during the World War, and was commissioned first lieutenant Feb. 7, 1918. He was stationed at Camp Oglethorpe as instructor in radiology. At the close of the war he was stationed in Washington, D. C. Returning to Wilkes-Barre, Dr. Rogers gave up general practice and devoted himself to roentgenology. He was roentgenologist to the Wilkes-Barre General Hospital (consulting roentgenologist at the time of his death) and to the Mercy Hospital.

He was a member of his county (president, 1938-39) and state medical societies, the Radiological Society of North America, and a Fellow of the A. M. A.

For 6 years Dr. Rogers served on the Kingston School Board.

Dr. Rogers was the third generation of his family to practice medicine in Luzerne County. His grandfather, J. J. Rogers, M.D., practiced at Huntsville, and his father at Kingston.

In 1916 Dr. Rogers was married to Elizabeth M. Seibel, of Wilkes-Barre. His widow, 2 sons, one of whom, Lewis L. Rogers, 3d, is a student at the Jefferson Medical College of Philadelphia, and a sister survive.

U. S. EXPORTS OF SCIENTIFIC AND LABORATORY INSTRUMENTS AND APPARATUS CONTINUE TO GAIN

The strong foreign demand for American scientific and laboratory instruments and apparatus is reflected in current export sales, according to the Specialties Division of the Department of Commerce.

During the first 6 months of the present year, foreign sales were valued at \$3,193,424, a 68.8 per cent increase over the corresponding period of 1939 and 47.9 per cent compared with the 6 months of 1938.

These items of American manufacture continue to be widely distributed to world markets, although there are a few markets which purchase a substantial portion of total exports. The 24 most important foreign outlets located in all continents took approximately 91 per cent of the total exports during the first 6 months of 1940. The same areas during 1939 and 1938 accounted for 81.5 per cent and 86.5 per cent, respectively, of the total exports.

Canada continues to be the largest export outlet for United States scientific and laboratory instruments and

apparatus, purchasing 18.5 per cent of the total exports for the first 6 months of 1940. This is a gain of 22 per cent and 44 per cent, respectively, over the corresponding periods of 1938 and 1939. Sales to Japan and the Netherlands Indies during the first 6 months of 1939 were valued at \$42,037 and \$28,009, but during the same months of 1940 increased to \$528,417 and \$176,488, respectively.

Shipments to Venezuela and Brazil during the period under discussion were valued at \$154,151 and \$147,493 compared with \$81,191 and \$76,232 for the same period of 1939. Purchases by the United Kingdom were valued at \$141,378, a slight increase over 1939, but exports to Sweden for the first 6 months of 1940 gained \$39,140 over the 1939 trade of \$86,011.

Other important markets which recorded gains were Argentina, Colombia, Mexico, Soviet Russia, France, and British India. There were no shipments made to Germany and Poland during 1940, while exports to Italy amounted to \$17,377, decreases of more than 67 per cent and 59 per cent compared with the corresponding periods of 1938 and 1939.

TUBERCULOSIS ABSTRACTS

A Review for Physicians

PREPARED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

Published through the co-operation of the Pennsylvania Tuberculosis Society
and The Medical Society of the State of Pennsylvania

EACH case of tuberculosis presents its own peculiar problems and no 2 cases are alike. The physician concentrates his attention on the particular case before him and studies the reactions generated by infection with the tubercle bacillus of that individual. While he is not directly concerned with the broad biologic principles of this age-old mass epidemic, he does gain a better insight into the individual pathogenetic factors by keeping in mind which epidemiologic factors are responsible for the changes, the increase and decrease in tuberculosis. Max Pinner has sketched some of these trends in a recent article, from which these abstracts are derived.

EPIDEMIOLOGIC TRENDS OF TUBERCULOSIS

The epidemic, tuberculosis, is "young" when it makes its first encounter with a population; it "matures" when its contact has become fairly universal for a few generations, and it is "old" when the population as a whole has become sufficiently resistant to its ravages that the death rate falls rapidly. Earliest childhood, maturity, and senescence of tuberculosis are represented by the early invasion by tuberculosis of certain African tribes and a group of American Indians, the American Negro, and our own white population.

Wherever tuberculosis strikes first, it is in primitive societies. By "primitive" is meant a society previously not or hardly in contact with the occidental civilization and a society that for a long period has lived in essentially unchanged, settled conditions—a population without history in the common sense of the word. Tuberculosis never comes alone to an untouched population; it always comes accompanied by, and rather through, agents of occidental civilization. It is, therefore, always associated with profound changes and disturbances of tribal life. These changes play a most significant rôle in shaping the epidemic features.

Borrel reports that a portion of Senegalese troops were tested with tuberculin upon arrival

in France during the last war, and only 4 per cent to 5 per cent reacted. Many of these men were observed at a later date as tuberculous patients and on the necropsy table. The general picture was about as follows: Following a certain period without evident clinical symptoms, during which swellings of supraclavicular and tracheobronchial lymph nodes can be observed, the disease develops rapidly with toxemia, high fever, weakness, and multiple organ involvement, which in 70 per cent leads to death. At necropsy diffuse caseation of multiple groups of lymph nodes is dominant in 70 per cent to 90 per cent of the cases. One-fourth of the patients died of generalized miliary tuberculosis and, in a large proportion of the remainder, diffuse caseous foci were present. Here is a form of disease characterized clinically by the predominance of systemic over local symptoms, by the rapidity of its course, and its high fatality. The characteristics are generalization, diffuse caseation, and the absence of reparative processes.

However, the majority of Senegalese neither acquired nor died of tuberculous disease and it is safe to assume that many healthy reactors returned to Africa, proving their resistance to tuberculous infection.

A somewhat later stage, that of practically uni-

versal infection, is represented by an epidemic among certain Indian tribes of the Canadian plains. Following a period (1850-1880) in which there were only sporadic cases of tuberculosis, the epidemic reached its height between 1884 and 1890, during which time one out of 3 Indians had visible lymph node swelling and by 1906 about 20 per cent of the school children in Qu'Apelle were operated upon for tuberculous nodes. The death rate rose from 1000 in 1881 to 9000 in 1886, falling to 2000 in 1901, to 1000 in 1907, and following the establishment of anti-tuberculosis work in 1930 it reached 270 in 1931-32.

The most complete epidemiologic studies of tuberculosis in a relatively primitive society were made on the South African tribes that provide the laborers for the mining industry in South Africa. These studies are reviewed by the author. He points out that the epidemiologic picture of South African natives is not a uniform one as these natives have been observed under 3 different living conditions; namely, in their native villages, during labor service in mines, and during war service in France. Hence, observations limited to only one of the 3 localities would lead to an incomplete and biased impression.

A more mature stage of the epidemic is illustrated by tuberculosis as it occurs in the American Negro. The tuberculin index is higher than in the white American, the death rate about 3 times as high, and the peak of the age incidence is at an earlier age. Furthermore, the shift of this peak toward older age groups, while pronounced in the white, is negligible in the Negro.

Many Negroes show the same chronic localizing type of disease as the whites, but relatively acute forms, generalizations in the form of lymphatic and hematogenous spread occur with much greater frequency in Negroes than in whites. This was demonstrated by the author in a previous study, and in order to confirm these findings, he calculated the ratio of deaths from all forms of tuberculosis to deaths from disseminated tuberculosis separately for the 2 races. The figures derived from the United States mortality statistics show that the relative frequency of disseminated forms is considerably higher in Negroes and that the decrease of disseminated forms during the past 17 years is much smaller in Negroes than in whites.

Several studies of tuberculosis among Negroes and whites under identical or similar living conditions show that while the morbidity rates are closely similar, the mortality rate for the Negro is about 4 times higher than for the white. One

writer concluded that the chances for colored children (in Baltimore) to become infected in a tuberculous family are about equal to those of white children under similar circumstances, but the chances of dying from tuberculosis are 3 times greater in Negro than in white children.

Lack of space prohibits quotation of the author's discussion based on his observations, but the following points stand out:

In the early phases of tuberculosis the disease is acute, rapidly fatal, generalized, without tendency to heal, with toxemic symptoms overshadowing local symptoms, and has a predilection for the young.

No nation or tribe free of tuberculosis has a uniformly high susceptibility to tuberculosis. The complete lack of resistance in so-called virgin soil is a myth. The individual degree of resistance and the collective frequency of the disease are not simply matters of interplay between host and bacillus, but they are profoundly influenced by living conditions in the widest sense of the word.

The most spectacular decrease in tuberculosis mortality occurred, as a rule, before any organized campaign against tuberculosis could be initiated. However, antituberculosis work is undoubtedly effective in later phases of the epidemic.

The South African report makes it clear that previous infection did in no noticeable way modify or alter tuberculous disease that developed later. A primary infection in a not highly resistant stock produces allergy without causing immunity.

There is no shred of evidence to show that immunization is transmitted by heredity. The elimination of the least resistant strains must undoubtedly play an important rôle in the gradual attenuation of tuberculosis, particularly so in the early phases of the epidemic.

Tuberculosis mortality parallels the socio-economic conditions, so much so that it would seem that poverty and unusual stress and strain should be the guideposts for case-finding programs.

The danger that an acute and virulent epidemic may sweep again through our population sometime after tuberculosis has been eliminated (or reduced to its minimum), because the immunizing effects of infection would then be lost, would appear slight. A population that has survived a tuberculosis epidemic and has rid itself of it is hardly comparable to a "virgin-soil" population.

Epidemiologic Trends of Tuberculosis by Max Pinner, M.D., American Review of Tuberculosis, Vol. XLII, September, 1940.

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, *Secretary*

8104 Jenkins Arcade

Pittsburgh, Pa.

ARE YOU A PROCRASTINATOR?

An Open Letter to the Physicians of Pennsylvania

The Pennsylvania Medical Preparedness Committee is now in possession of the names and addresses of the physicians of Pennsylvania who had not up to Oct. 21, 1940, returned to the American Medical Association at 535 N. Dearborn Street, Chicago, Ill., the "medical preparedness questionnaire" distributed early in August by the A. M. A. to 13,422 Pennsylvania physicians. (This is not to be confused with the "county preparedness questionnaire" mailed to Pennsylvania physicians late in October and early in November.)

Briefly stated, the record of the return of the A. M. A. questionnaire is about as follows:

Seventy per cent of the members of Allegheny and Philadelphia County Medical societies have returned their A. M. A. questionnaire.

Seventy-two per cent is the average of members in the smaller county medical societies who have returned the questionnaire.

The record for nonmembers is not nearly so good. In the 2 larger counties only 44 per cent of nonmembers have returned the A. M. A. questionnaire, and in the other counties of the state the percentage of nonmembers' returns is even less.

As has been repeatedly stated in the columns of the JOURNAL and elsewhere, the A. M. A. questionnaire with a return envelope may be had for the asking, and this offer is open to members and nonmembers alike.

Furthermore, information regarding each physician will eventually be forthcoming—why not from each physician himself?

The expense of this survey is being borne by the organized medical profession—county, state, and national. Why not respond now to this request published in the JOURNAL and save your medical society the trouble and expense of writing you personally? Since this will eventually happen if you do not respond, it is to be hoped

all physicians will take the necessary step at once to exclude their names from the final list of procrastinators.

Request the chairman of the Medical Preparedness Committee in your own county, or the chairman of the Pennsylvania Medical Preparedness Committee—Charles H. Henninger, M.D., Jenkins Arcade Bldg., Pittsburgh—to supply you with an A. M. A. questionnaire and its accompanying addressed envelope.

Let us reduce to zero the percentage of neglect in Pennsylvania!

GRATIFYING TO SAY THE LEAST

In his inaugural address on Sept. 18 as president of the Philadelphia County Medical Society, Dr. Edward L. Bortz, referring to the society's 2400 members, 600 of whom are now serving on committees, in the following words made public promise of co-operation with numerous other medical groups and health organizations, among them The Medical Society of the State of Pennsylvania:

Our society is the largest component group of The Medical Society of the State of Pennsylvania. We propose to continue to work in complete harmony with the State Society and do our share in maintaining the high standards of medical service throughout the commonwealth.

HASTE INTERRUPTS PLANNED PROGRAMS

The September issue of the JOURNAL contained a committee communication voicing the hope that the urgent program for medical preparedness might not influence unfavorably the deliberations of the 1940 House of Delegates of the State Medical Society on other pressing problems. That the deliberations of the House of Delegates were disturbed is more or less dramatically set forth in the opening paragraphs of the appended communication relative to the

"draft board" phase of the medical preparedness program. That action taken on important reports may indicate that they also received all too scant consideration by the House may be the opinion of those who later read with care the minutes of the House as they will appear in the December PENNSYLVANIA MEDICAL JOURNAL.

The appended communication addressed last week to several representatives of each county medical society in Pennsylvania is not entirely clear as to the use made by the Governor of Pennsylvania and the President of the United States of the names supplied. However, a letter of appreciation from William Mather Lewis, Selective Service Director for Pennsylvania, dated Oct. 17, addressed to our State Medical Preparedness Committee, indicates that only 53 names of physicians scattered through 9 Pennsylvania counties were substituted for names included in the total of 1266 supplied the Governor by county and state medical society representatives; also, of these 53 only 7 were not members of The Medical Society of the State of Pennsylvania—2 each in Allegheny and Westmoreland counties and 3 in Philadelphia County. In other words, the medical advisers to approximately 415 of the 422 "draft boards" in Pennsylvania are members of The Medical Society of the State of Pennsylvania.

Such source of recommendation and selection doubtless makes for the best in the service desired since all such appointees must be conscious that their selection for this important and patriotic duty had its origin in the expressed confidence of their fellow members in county and state medical societies. Is this not an infinitely wiser basic influence for all selective appointments than those that are not only political but partisan in character?

PENNSYLVANIA COMMITTEE ON MEDICAL PREPAREDNESS

To co-operate with the Committee on Medical Preparedness of the American Medical Association and with similar committees of the component societies of The Medical Society of the State of Pennsylvania

To Members of County Committees on Medical Preparedness

CC: Presidents, Secretaries, and Editors of Component County Medical Societies

GENTLEMEN:

As early as Sept. 25 the Pennsylvania Medical Preparedness Committee was prepared to address a communication to each county medical society president and secretary and to the chairman of the county society Medical Preparedness Committee requesting them to forward to our committee, either by mail or to deliver in person at the opening session of the House of Delegates in Philadelphia, Sept. 30, the names of 2 representative physicians to be submitted to the Governor of Pennsylvania for his selection and recommendation

for appointment as examining physicians to each of the draft boards in Pennsylvania.

The letter referred to was never sent out, but the envelopes addressed at that time are now being used to convey this later communication to you. It was not sent out on Sept. 27 because governmental authorities were at that time unable to furnish us with any information regarding the composition of the draft districts of the state.

However, those of you who were in Philadelphia on Sept. 30 will remember that a telephone communication direct from Governor James to a member of our committee requested that the Governor's office be supplied within 24 hours with the names of 3 physicians from whom he might choose one to serve with the various draft boards. This resulted in an early adjournment of the Monday meeting of the House of Delegates and the convening in separate groups of all delegates or other members present from our State Society's 12 councilor districts for the purpose of recommending 3 physicians in each of the 422 draft districts. The list of districts had been received at headquarters, the Bellevue-Stratford Hotel, from the Governor's office at 4 p. m. Monday.

In many instances members present from the various councilor districts, working assiduously, gave up their previous dinner and other evening engagements, devoting such time to the emergency task at hand. With their various selections completed and stenographers working far into the night, the list, containing 1266 names, was prepared and returned by messenger to Governor James on Tuesday, Oct. 1, at 2 p. m.

It is apparent that the Governor did not later choose one physician from the 3 names submitted but forwarded the 3 names to the Advisory Draft Board in each county. These boards in turn addressed a communication, with a return post card, to all 3 of the physicians named for each draft district, asking them to indicate their willingness to serve. Apparently from those physicians responding in the affirmative by the return post card the physician to be first associated with each draft board was or will be chosen and appointed.

Our committee sets forth the above facts more or less at length because we have been informed that in a number of instances State Medical Society members recommended for this work by the various groups from their own councilor districts assembled in Philadelphia on Sept. 30 have complained because they were chosen without previous consultation. The members of our committee sincerely hope that the members of your committee will make as clear as possible to the physicians in your respective counties, who received communications from state or county authorities asking them to serve with the draft boards, the unavoidable "rush" required by the Governor's abrupt request for such a list to be prepared within 24 hours.

Our committee respectfully calls attention to the wisdom of the early establishment by representatives of each county Preparedness Committee of co-operative relationships with the county Advisory Draft Board of each county. Our profession has played a prominent part in the national defense program since last June through its A. M. A. and state medical society representatives, and undoubtedly the most important phase of the medical contribution to national defense remains yet to be developed locally by county medical society representatives.

To the end that the prestige of local medical selection may be maintained and adequate service assured—if and

when a more extensive national emergency develops requiring similar consulting relationships on the part of governmental authorities in their appointment and assignment of physicians to meet local civilian and industrial health needs—the Medical Preparedness Committee of every county might well consider addressing a questionnaire to the physicians of their respective counties. This request and questionnaire are to be entirely independent of the previous A. M. A. questionnaire.

Allegheny, Cumberland, Delaware, and Philadelphia County Medical Societies have already initiated or completed this essential movement. To the representatives of the small county medical societies who may desire help in adopting this latter proposal, the undersigned committee offers assistance to the extent of mailing the necessary questionnaire to the membership of the societies making such request, enclosing an envelope addressed to the officer or representative of the component society as suggested at the time such request may be made.

It is believed that no one at this time can anticipate the extent to which every county medical society may be called upon under the guidance of national, or county military, police, or transportation authorities to provide necessary emergency medical care and protection for the civilian population.

The maintenance on file of essential information by the county medical society and its Preparedness Committee regarding each physician is a primary step.

Who can furnish this information better than each physician himself in reply to a county questionnaire?

That the National Defense Commission is determined to have access to such information regarding all licensed doctors of medicine, regardless of age or medical society membership, is illustrated by the instructions to the various state Medical Preparedness Committees to furnish what information they can concerning each physician in the respective states who has failed to complete and return to 535 N. Dearborn Street, Chicago, Ill., the A. M. A. questionnaire which was mailed to more than 170,000 United States physicians early in August, 1940.

Very truly yours,

FRANCIS F. BORZELL, M.D.,

WALTER F. DONALDSON, M.D.,

CHARLES H. HENNINGER, M.D., *Chairman.*

Oct. 12, 1940.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since Aug. 30. Figures in first column indicate county society numbers; second column, State Society numbers:

Aug. 31 Philadelphia	2365-2370	9009-9014	\$60.00
Sept. 3 McKean	48	9015	5.00
4 Washington	139-140	9016-9017	20.00
9 Erie	168	9018	10.00
York	167	9019	5.00
Montgomery	245	9020	10.00
10 Luzerne	343	9021	5.00
18 Bedford	16	9022	10.00
Warren	49	9023	5.00
19 Lycoming	122-123	9024-9025	10.00
20 Potter	12-13	9026-9027	15.00
23 Blair	112	9028	10.00
25 Luzerne	344	9029	10.00
Northampton	152-154	9030-9032	15.00
26 Washington	146	9033	10.00

LIBRARY NEWS

Members desiring to borrow reprints from the library should send 25 cents in stamps to cover the postage and part of the expense of collecting the material. Address the Librarian, 230 State Street, Harrisburg, Pa. Each package may be kept for a period of 14 days.

Borrowers between Sept. 1 and Oct. 1 were:

Herbert H. Herskovitz, Norristown—*Insulin* (10 articles).

Enoch H. Adams, Bellefonte—*Diverticula of the Intestines* (22 articles).

George B. Jobson, Franklin—*Rhinorrhea* (5 articles).

William M. Cashman, Warren—*Cancer* (26 articles).

Samuel B. Fluke, Harrisburg—*Automobile Drivers* (2 articles).

Richard Yoffee, Harrisburg—*Speech Defects* (16 articles).

C. Paul Reed, Indiana—*Diseases of the Gallbladder* (9 articles).

Michael Cammarata, Woodville—*Therapy of Epilepsy* (15 articles).

Peter P. Mayock, Wilkes-Barre—*Bladder Obstruction* (6 articles).

Mrs. Augustus S. Kech, Altoona—*History of Medicine* (21 articles); *Medical Ethics* (1 article).

Samuel L. Grossman, Harrisburg—*Calcification of the Kidneys* (10 articles).

Merle R. Hoon, Pittsburgh—*Oxygen Therapy* (31 articles).

William W. Widdowson, Indiana—*Therapy of Polycythemia* (21 articles).

J. H. Booser, Harrisburg—*Accommodation and Refraction* (6 articles).

Department of Public Assistance Library, Harrisburg—(1 journal).

W. Craig Hendricks, Brookville—*Intra-abdominal Hemorrhage* (10 articles).

Alexander H. Stewart, Jr., Harrisburg—*Socialized Medicine* (16 articles).

Ora F. McKittrick, Linglestown—*Gas Poisoning* (5 articles).

Creedin S. Fickel, Carlisle—*Asthma in Infants and Children* (24 articles).

Sydney M. Saul, Pittsburgh—*Brain Cysts* (14 articles).

Francis W. Joyce, Pittsburgh—*Cancer* (25 articles).

C. William Weisser, Pittsburgh—*Vertigo* (7 articles).

Frederick A. Miller, Pittsburgh—*Vitamin K* (23 articles).

Alexander H. Stewart, Sr., Harrisburg—*Medical Ethics* (1 article); *Medical Economics* (5 articles).

John L. Flannery, Harrisburg—*Ascites* (7 articles).

William A. Guenon, Greencastle—*High Blood Pressure* (12 articles).

Sydney M. Saul, Pittsburgh—*Arthritis Deformans in Infants and Children* (13 articles).

John B. McAneny, Johnstown—*Osteitis Deformans* (16 articles); *Pneumoconiosis* (16 articles).

John V. Foster, Harrisburg—*Chylothorax* (7 articles).

Harry Leonard Baer, Pittsburgh—*Tularemia* (29 articles).

Rodney H. Kiefer, Woodville—*Barbital and Barbital Derivatives* (16 articles).

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

New Members (10)

LUZERNE COUNTY

Walter H. Lambert Luzerne

LYCOMING COUNTY

Allen J. Hannen Williamsport

Clarence N. O'Neill Montgomery

McKEAN COUNTY

L. Stearns Fannin Bradford

MONTGOMERY COUNTY

Alfred E. Troncelliti Ardmore

PHILADELPHIA COUNTY

John D. Donnelly Bala-Cynwyd

Jacob L. Marks Philadelphia

Samuel A. Manstein "

WARREN COUNTY

William Lincoln Ball Warren

YORK COUNTY

Seward M. Transue Glenville

Reinstated Members (10), Removals, Transfers, Resignations (2), Deaths (11)

ALLEGHENY: *Death*—Charles R. Stewart, Millvale (Univ. Pa. '99), Aug. 31, aged 67.

BEDFORD: *Reinstated Member*—Joseph H. Kniseley, New Paris.

BLAIR: *Death*—William H. Howell, Altoona (Univ. Pa. '99), Aug. 13, aged 67.

ERIE: *Reinstated Member*—George S. Durbin, Erie. *Death*—Adelbert B. Miller, Erie (Univ. Pgh. '05), Sept. 11, aged 59.

FAYETTE: *Death*—Andrew O'Neill, Uniontown (Md. Med. Coll. '04), Aug. 2, aged 68.

LACKAWANNA: *Death*—Carl G. Brown, Scranton (Jeff. Med. Coll. '09), Sept. 13, aged 62.

LANCASTER: *Transfer*—William F. Hartman, Lancaster, from Philadelphia County Society.

LUZERNE: *Removal*—George A. Truckenmiller from Kingston to Weatherly (Carbon Co.). *Death*—Burton C. Rumbel, Conyngham (Med.-Chi. Coll., Phila., '05), Sept. 3, aged 65.

LYCOMING: *Resignation*—Alex. M. Duff, Baltimore, Md., and T. Kenneth Wood, Muncy (as of Dec. 31, 1939).

MONTGOMERY: *Transfer*—Robert R. Smith, Ambler, from Bucks County Society. *Death*—Warren B. Shaner, Pottstown (Univ. Pa. '82), July 15, aged 81.

PHILADELPHIA: *Reinstated Members*—Franklin M. Kern, Harry N. Metzger, Louis H. Brown, Charles E. G. Shannon, Louis R. Wiley, Philip S. Rosenblum, Philadelphia; Morris F. Oxman, Aspinwall (Alleg. Co.). *Removal*—Hershel C. Lennon from Philadelphia to Greensboro, N. C. *Deaths*—Harold A. K. Mengle, Blue Ball (Temple Univ. '27), June 21, aged 40; Joseph McIver, Philadelphia (Univ. Texas '12), Sept. 7, aged 54.

WASHINGTON: *Reinstated Members*—Robert G. Fur- long, Arthur W. Hopper.

WESTMORELAND: *Death*—John Wesley Barkley, Ligonier (Jeff. Med. Coll. '97), Aug. 29, aged 72.

YORK: *Death*—Wallace R. Swartzwelder, York (Univ. Md. '27), Sept. 4, aged 40.

Net gain in membership during September..... 7

NOT SO SOFT

Medical officers who have been examining National Guardsmen report them as showing a high average of physical fitness. No one should be surprised if today's young men are stronger and healthier than their fathers. The past quarter century has been one of marvelous progress in the science connected with making and keeping people well, and this progress has been particularly notable in the ailments of infancy, childhood, and youth. The rate of infant mortality in this decade is less than one-third what it was during the first decade of the century; diphtheria has almost disappeared; there have been remarkable reductions in the death rates from measles, whooping cough, and scarlet fever; tuberculosis has not been vanquished, but it is steadily retreating; diarrheal diseases, which used to kill so many children, are almost at the vanishing point. And these facts mean not merely that fewer young people have died, but that fewer have been weakened by diseases from which they recovered.

The same quarter century has seen a growing knowledge of proper foods for children and an expanding use of those foods. Milk is more abundant and more care-

fully handled than it used to be. Fruits and fruit juices have an immensely wider distribution. Fresh vegetables are more easily and cheaply obtainable the year round. For city children there are more opportunities for wholesome recreation. Housing conditions have improved, though vast areas of city tenements are still dangerously below par in healthfulness.

If these improvements were not already showing in the better physique of youngsters just reaching maturity, we might well be surprised. The younger generation is by and large a healthy one, and being healthy it is not physically soft. We don't believe it is morally soft either. In many ways the problems it has had to face are tougher than those its parents dealt with. It has not had too luxurious a time. We think it will face tomorrow's realities, and today's, realistically and bravely.—Editorial, *New York Times*, Sept. 22, 1940.

Every failure teaches a man something if he will learn.—DICKENS.

REFUTES STATEMENT THAT OSTEO-PATHS AND PHYSICIANS HAVE SAME RIGHTS

"In *Life*, which is a picture magazine, for Aug. 19 appears an article entitled 'Osteopathy's "Cure-By-Manipulation" Is Attacked by Regular Physicians,' " *The Journal of the American Medical Association* for Aug. 31 states. "Here a small amount of text is supplemented by a number of photographs, evidently made in or supplied through the osteopathic shrine at Kirksville, Mo., known as the Kirksville College of Osteopathy and Surgery. In the very brief text which accompanies the pictures appear a number of misstatements of fact which, it is not too confidently expected, the magazine may correct. Many of these misrepresentations have been repeatedly exposed in *The Journal*. In the second paragraph of the article, for example, appears this statement:

"In 33 states qualified doctors of osteopathy are permitted to practice on equal or almost equal footing with doctors of medicine. Osteopaths can and do deliver babies, perform surgery, prescribe drugs, and take full charge of patients.

"The facts are that in only 4 states (Colorado, Massachusetts, New Hampshire, and Texas) for certain, and perhaps in a fifth (Kentucky), may osteopaths now legally prescribe or dispense drugs without restriction. This is true in the first 4 states mentioned because in those states osteopathic applicants, if licensed at all, must meet the requirements exacted of applicants to practice medicine generally. To this list may be added, after Nov. 1, 1941, a sixth state (New Jersey), where osteopaths licensed after that date will be subject to the same requirements as nonsectarian applicants and will receive an unlimited license to practice medicine.

"Experience has shown that few osteopaths indeed are able to meet the requirements exacted of applicants to practice medicine generally. In 12 states osteopaths are given limited right to use certain drugs, the drugs concerned varying in the various states. In 8 states osteopathic licentiates generally may not use drugs, but the laws contain provisions whereby osteopaths may, under certain conditions, obtain licenses by virtue of which they may use drugs, the law of one of these states even then permitting the use only of a very limited number of drugs. In 8 states osteopaths are specifically denied the right to use drugs. In 9 states osteopaths secure licenses only to practice osteopathy, without defining the scope of the practice permitted, but no court has ever held that the right to practice osteopathy includes the right to use drugs. In 7 states osteopaths are licensed to practice osteopathy as taught in recognized schools of osteopathy which, in effect, denies them the use of drugs, and the Supreme Court of Kansas has recently held that the right to practice osteopathy as taught and practiced in recognized schools of osteopathy confers no right on osteopaths to practice operative surgery or to use remedial drugs.

"To summarize: In 24 states osteopaths legally cannot under any circumstances use drugs. In 8 states by far the greatest number of osteopaths cannot use drugs, but it is possible for candidates possessing stated qualifications to obtain that right. In 12 states osteopaths may utilize stated drugs to a limited extent. Only in 5 states, probably, may osteopaths use drugs without restriction. Obviously, then, from the standpoint of the right to use drugs, which an osteopath must possess if he is 'to practice on equal or almost equal footing with doctors of medicine,' the article in *Life* is, to put it

charitably, indulging in gross exaggeration when it states 'In 33 states qualified doctors of osteopathy are permitted to practice on equal or almost equal footing with doctors of medicine.'"

ADMINISTRATION OF NARCOTICS BY OSTEOPATHS

In an action by the Kansas State Osteopathic Association, Inc., and others against the Collector of Internal Revenue in the State of Kansas, the issue was whether or not osteopathic physicians, under the laws of Kansas, have the right to administer narcotic drugs. The Tenth Circuit Court of Appeals, 111 F. 2d 250, held that the question must be determined by the statutory law of Kansas, as interpreted by its Supreme Court cases, and reversed a judgment of the Federal District Court for Kansas in favor of the plaintiff, and remanded the case with instructions to dismiss the bill.

The Circuit Court of Appeals, after an exhaustive review of the Kansas statutes and Supreme Court decisions, said: "When the osteopaths were licensed to practice their profession, as indicated by statements from the leaders of their profession, their therapy was designed to relieve pain and other illness by means of manipulation and without the use of drugs. Evidently it was upon the strength of that claim that the legislature granted them the privilege of practicing their profession of osteopathy in the state of Kansas. If they have now found that their osteopathic therapy will not relieve pain, but they must use narcotics or other drugs to secure that end, that need should be addressed to the legislature rather than to the courts.

"We are, therefore, of the opinion that the statutes of Kansas, as construed by the highest court of that state, prohibit the use, sale, or distribution of narcotic drugs for any purpose by an osteopathic physician."—*Medical Record*, Sept. 18, 1940.

SULFATHIAZOLE PRODUCES THE RECOVERY OF 2 PATIENTS WITH SEPTICEMIA

The recovery of 2 patients from septicemia was brought about by treatment with sulfathiazole, a new sulfanilamide derivative, W. Calhoun Stirling, M.D., Washington, D. C., reports in *The Journal of the American Medical Association* for July 13.

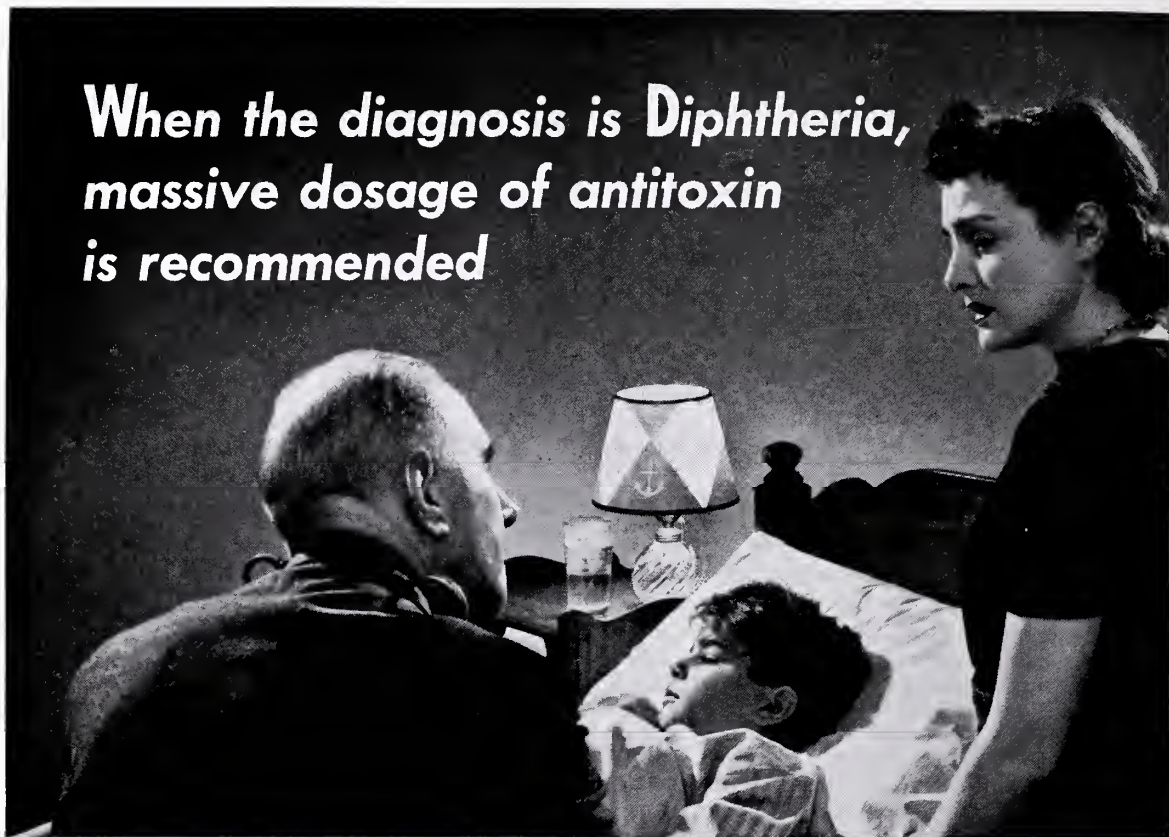
He also used sulfathiazole with success in 25 other cases of urinary infections. Many of these infections had not responded to sulfanilamide treatment.

In the author's opinion sulfathiazole seems less toxic and more effective than other members of the sulfonamide group, nausea being the only side effect seen, and this subsides quickly when the drug is discontinued.

"In sulfanilamide-resistant infections," he says, "sulfathiazole offers a new avenue of attack which in the few cases in which it has been used seems to justify the claims made for it."

Sulfathiazole is absorbed and eliminated quickly, but this is obviated by giving it more often than other sulfanilamide compounds are given.

When the diagnosis is Diphtheria, massive dosage of antitoxin is recommended



WHEN diphtheria antitoxin was first introduced, physicians hesitatingly administered 300 to 1,000 units of this new therapeutic agent, yet this small dosage startlingly reduced the high mortality rate. Since then, overwhelming evidence has demonstrated beyond question that massive dosage is indicated in the treatment of diphtheria.

Mulford Diphtheria Antitoxin, Purified Globulin, is well adapted for the administration of large unit dosage. Because of the reduction in bulk, it is easy to administer and causes less pain to the patient. It is rapidly absorbed and develops quicker patient response due to more rapid neutralization of the toxin. Although highly concentrated, it is isotonic with the blood. It is low in protein.

Mulford Diphtheria Antitoxin, Purified Globulin, is supplied in syringes of 1,000 units; 5,000 units; 10,000 units; 20,000 units and 40,000 units. Our complete line of diphtheria biologicals also includes *Mulford Diphtheria Toxoid, Alum Precipitated, Refined* in $\frac{1}{2}$ -cc. and 1-cc. doses; *Mulford Diphtheria Toxoid (Anatoxine Ramon)*; *Mulford Diphtheria Toxin for the Schick Test*; and *Mulford Diphtheria Toxin for Schick Test Control*.

Chart,¹ showing general tendency toward reduction in mortality rate as initial dose of diphtheria antitoxin is increased:

Hospital	Average Primary Dose	Mortality Percentage
A	9,000	7.81
B	13,700	3.84
C	15,000	5.43
D	16,000	4.40
E	17,000	2.87
F	22,000	2.66

1. Brit. M. J., 2:1132, Dec. 19, '31

MULFORD BIOLOGICAL LABORATORIES
Sharp & Dohme



DIPHTHERIA ANTITOXIN, Mulford
Highly concentrated... Isotonic with the blood... low in protein

COUNTY SOCIETY REPORTS

ADAMS

Oct. 2, 1940

A regular meeting was held with 16 members and 2 guests present. President Henry Stewart presided.

A 2-reel motion picture on electrocardiography was shown.
HENRY STEWART, *Reporter*.

ALLEGHENY

Sept. 7, 1940

The meeting was held in the Mellon Institute Auditorium, Pittsburgh, at 9 p.m.

"Dilantin Therapy in Certain Nervous Disorders" was presented by William Shapera, who said in part:

Dilantin or sodium diphenyl hydantoinate having been presented to the medical profession as an anticonvulsant, the purpose of this investigation was to determine whether dilantin had any effect on the control of any type of involuntary movement including convulsions. One hundred and forty cases were treated; 62.1 per cent had a cessation of convulsion or tremor for one year or more, and were greatly or moderately decreased; 37.9 per cent disclosed no change or were made worse. A few had subjective improvement, but this was considered questionable. The ill effects from dilantin were subjective—fear state, shaking sensation, hiccough, feeling of going out of the mind, pain in the stomach, vomiting, dizziness; objective—papular rash on the body, hypertrophy of the gums, furunculosis, nystagmus, and cyanosis of the lips. Careful examination is necessary for patients taking dilantin, especially with hypertrophy of the gums, since they do not complain of pain or discomfort. Discontinuing dilantin for a short period will cause most of the ill effects to disappear.

Dilantin appears to have some antispasmodic properties for the control of tremors in chorea and post-encephalitic states when used alone or combined with other antispasmodics and sedatives. It has little or no effect upon rigidity or spasticity. Dilantin has therapeutic value in certain nervous disorders exclusive of idiopathic convulsive states or the so-called epilepsy.

"Abscess in and About the Liver" was discussed by C. Lee Wilmoth, who said that amebic and nonamebic abscesses in and about the liver would be considered. The interest manifested in abscesses in this region is due in a large measure to the consistently high mortality rate and the difficulties of an early diagnosis. The abscess within the liver will usually be found to be amebic in origin, while the abscess lying in contact with the liver but outside of its capsule will usually be pyogenic in origin and secondary to other pathology within the abdominal cavity.

It is important to differentiate between amebic and pyogenic abscesses if proper surgical measures are to be given. In amebic abscesses the prognosis is good and the treatment is relatively simple. In pyogenic abscesses the prognosis is grave and the proper treatment difficult.

An early and correct diagnosis may be dependent upon

the following: A careful history of onset and course of symptoms, physical signs, roentgen-ray changes, peritoneoscopic findings, and finally, aspiration of the abscess with definite localization by the injection of iodized oil. This will give its exact location, its size and extent, and will permit an examination of the pus for pyogenic organisms. The treatment is thus greatly simplified, and if drainage is necessary it can be done by the route that is the most direct, the least shocking, and which avoids contamination of uninfected areas. The peritoneal and pleural cavities must be avoided if the mortality rate is to be lowered.

The early symptoms may be of little help except as they point to some obscure infection. Later, pain and tenderness must be carefully interpreted. Liver enlargement, jaundice, changes in the blood counts, presence or absence of amebae or cysts in the stools—all must be carefully considered if an early diagnosis is to be possible. The roentgen ray may be the first to give definite localizing evidence. A fixed diaphragm, a bulging or alteration in the diaphragm, indicate the need for further investigation as to the presence or absence of an abscess in this location. These changes are usually present before subjective local symptoms are suggestive of infection about the liver. Pulmonary changes are frequently seen in delayed diagnosis, but diagnosis should have been made before pronounced pulmonary changes were demonstrable by roentgen ray and physical examination.

Amebic abscesses are best treated by aspiration and by emetine. Pyogenic abscesses, which include amebic abscesses that have become secondarily infected, require drainage. It is believed that catheter drainage with continuous suction is superior and safer than a large open incision. Shock, hemorrhage, and the danger of contamination are reduced to a minimum with catheter drainage. Without suction the pus, particularly if amebic, is too thick to drain through it. Suction permits of adequate drainage through a small catheter. Irrigation of the abscess cavity with solutions of amebicides is valueless in amebic abscesses. It may produce complications in amebic or pyogenic abscesses and at least should not be employed during the first few days of surgical drainage.

Recovery from abscesses in and about the liver is dependent upon many factors—whether multiple or single, whether amebic or pyogenic, and if pyogenic, the virulence of the infective organism. The most important factors in recovery, however, are early diagnosis and proper surgical treatment.

"Treating the Allergic Patient" was presented by Louis H. Landay, who said in part: Skin testing is an important diagnostic procedure in allergy, but skin tests are not infallible and should be properly evaluated.

The best results in the allergic field are obtained in hay fever by desensitizing to the various pollens, but hay fever patients must be individualized and the dose necessary to protect the individual varies with the clinical sensitivity. If the hay fever patient does not get a good result, he must, in addition to pollen hypsensitization, be treated with the inhalants and avoid the foods to which he may be sensitive.

In the treatment of asthma, a detailed survey of the patient, including a complete examination, is necessary. The environment is extremely important. Desensitization to foods is not attempted, but the patient should be treated with a mixture of the various inhalants to which he is found sensitive, including dust extract, which is always made from the patient's own home. In addition, the fundamental rules of allergic management should be followed, such as using nonallergic pillow slips and mattress covers, thoroughly cleaning the house, disposing of pets, using nonallergic cosmetics, avoiding sudden changes of temperature, not using insect sprays, avoiding smoke-filled rooms, and cleaning up focal infections.

In some cases endocrine factors play an important rôle in asthma, and the patient should be thoroughly studied from an endocrine standpoint.

There is a group of cases of so-called intrinsic asthma in which season, environment, foods, and inhalants seem to play no important rôle. Skin tests in these cases are usually negative. These cases are very resistant to treatment and have the worst prognosis. Bronchoscopic treatment with aspiration and dilatation of the bronchi, plus postural drainage, may help some of these patients.

In the practice of allergy, always look for patients sensitive to drugs. Among these, aspirin is a frequent offender. Phenolphthalein and quinine are also frequent offenders.

In the treatment of chronic urticaria, in addition to focal infection, foods, inhalants, and endocrine factors, patients are frequently seen in whom psychogenic elements are most important. Cases of that type were described by the essayist.

In the treatment of infantile eczema, it is important to remember, in addition to food sensitivity, inhalant sensitivity and environmental factors. It is also advisable to be sure that positive foods are not taken in a disguised form.

Among the newer methods of treatment, potassium chloride, which was in vogue for awhile, was shown to be practically worthless in the allergic management. Histaminase, so far, in the essayist's experience and judging by reports from men throughout the country, has fallen far short of the expected results and has proved very disappointing.

The question of the oral method of pollen therapy was discussed and it was concluded that the parenteral method was much more efficacious.

"Sulfathiazole Therapy" was discussed by Alfred F. Knoll, Paul Gross, and Frank B. Cooper, as follows:

About 3 years ago, Mellón, Gross, and Cooper tabulated 430 sulfur-containing aromatic compounds, most of them related to sulfanilamide, which had been subjected to laboratory therapeutic tests. Today the number of such tested compounds probably exceeds 1000.

Not only have efforts of research laboratories been expended upon testing and synthesizing new compounds but attention has been focused upon the mechanism of action of the sulfonamides. The mechanism of action of these drugs is of more than academic interest inasmuch as the solution of this problem might furnish clues leading to the synthesis of optimally effective drugs.

Of all the drugs tested, only sulfanilamide, sulfapyridine, and more recently, sulfathiazole attained justifiable clinical popularity.

The synthesis of sulfathiazole was first reported before the American Chemical Society by Fosbinder and Walter of the Maltbie Chemical Company on Apr. 6, 1939. At this presentation favorable experimental data

from the Institute of Pathology of the Western Pennsylvania Hospital was reported. This report stimulated similar research in other laboratories and initiated clinical studies with sulfathiazole.

A study of over 400 patients treated with sulfathiazole at the Western Pennsylvania Hospital included 68 cases of pneumonia. In 52 of these it was possible to recover pneumococci and determine their type, while in 16 this was not possible for various reasons. The mortality of these sulfathiazole-treated cases was 3.8 per cent in the typed group and 6.3 per cent in the untyped group.

Seventy cases of cellulitis treated with sulfathiazole responded as well as or better than might have been expected with other sulfonamides.

The results obtained in a group of 70 dermatologic patients were sufficiently promising to warrant further application of this therapy. These patients were ambulatory and suffered with pustular acne, sycosis barbae, impetigo contagiosum, furunculosis, and lupus erythematosus.

Fifteen cases of infections of the urinary tract obtained symptomatic relief, although sterilization of the urine was accomplished in only 80 per cent.

Twenty-five cases of otitis media, mastoiditis, cervical adenitis, sinusitis, and cellulitis of the external auditory canal responded favorably.

In a group of 25 postoperative conditions favorable results were obtained with sulfathiazole, although its actual value was difficult to calculate.

A miscellaneous group of 130 cases included 3 patients with subacute bacterial endocarditis, none of whom recovered. No beneficial results were obtained in 12 cases of chronic osteomyelitis and 2 cases of gonorrheal arthritis.

The side effects, based upon observations in 408 patients, were minimal in incidence and usually in severity also. In only one instance was it necessary to suspend sulfathiazole medication because of gastro-intestinal upsets. A number of patients developed drug fever, skin rashes, and conjunctivitis which promptly subsided when the drug was stopped. Hematuria was encountered 14 times but macroscopically only twice. One patient developed a neurologic syndrome resembling amyotrophic lateral sclerosis, and one death by renal failure was attributed to sulfathiazole.

The favorable therapeutic results, the greater bacterial coverage, and the minimal toxic effects seem to point to sulfathiazole as the sulfonamide drug of choice. Urinary complications from uroliths composed of free or conjugated sulfathiazole should be minimized by careful attention to the fluid intake.

JOSEPH A. SOFFEL, *Reporter.*

BLAIR

Sept. 24, 1940

The regular meeting of the society was held at the Jaffa Mosque, Altoona, with President Charles S. Hendricks presiding.

The speaker of the evening was Luther C. Peter, professor of ophthalmology in the Graduate School of Medicine of the University of Pennsylvania. Dr. Peter spoke on "Recent Developments in Ophthalmology of Interest to the General Practitioner." In opening his talk, he stated that the greatest progress in treatment during the past decade, in terms of the general physician, had been in squint, cataract, glaucoma, and retinal separation.

In the past there were many false conceptions which concerned squint and which in part have been overcome and should be entirely corrected. These conceptions included such fallacies as "let the child grow out of the squint"; "do not operate until the child is age 12 to 14"; "amblyopia is incurable"; "operations are for cosmetic results only"; "when operations are performed, tenotomies should be done." The modern conception is that the monocular or usual type is curable without operation in 50 per cent of patients if treatment is instituted before age 7. The other 50 per cent are curable with surgery if done before age 7. Vision in many of the cases where it has been impaired can be restored or greatly improved with restoration of binocular vision. In these cases surgery should be done before age 6, and preferably between ages 3 and 4. Besides operative measures, orthoptic training should be instituted.

Among the various reasons for correcting these defects, the psychologic aspect and economic loss to the patient, due to inability to obtain or hold good positions, must be taken into consideration. Many of these patients develop inferiority complexes due to disfigurement, and there is a limited field of vocation for a one-eyed person. The latter becomes a severe financial handicap in a world of keen competition. This is particularly a field in which the general physician and the ophthalmologist should co-operate.

Concerning cataract in the modern sense of the word, the following classification was given:

1. Senile, due to nutritional disturbances, malnutrition, and systemic intoxications incidental to age.
2. Nuclear (fetal nucleus), most frequent because of low-grade toxemia.

3. Complicated, due to acute local toxemia, local infections, diabetes, and related or similar conditions.

Cataracts were said to be frequently due to infections of the teeth, tonsils, sinuses, intestinal tract, prostate gland, uterus, pus tubes, and various other chronic infections. Each type of cataract demands and requires a special treatment. The methods of treatment consist of preventive and arrestive measures and operation. The modern operative procedure is a one-stage intracapsular method. The older 3-stage method should be abandoned as it carries a high degree of mortality and morbidity.

Glaucoma is an inexcusable cause of preventable blindness, yet 6 to 16 per cent of those on the payrolls of the State's Blind Pension Fund are there because of it. Primary glaucoma may be divided into acute inflammatory, which is really an exacerbation of the chronic type, chronic noninflammatory, and chronic inflammatory types. Acute inflammatory glaucoma is sudden in onset, often during the night, and is preceded often by a shock such as bad news or physical trauma. There is present a beefy-red eye, pain along the side of the face, a steamy cornea, a dilated pupil, occasionally nausea and vomiting, and fever. These symptoms require prompt relief or blindness will ensue. Chronic glaucoma is insidious in onset with often the first symptom being haloes around lights and difficulty upon entering a dark room. With this type there is oftentimes a visual loss which is permanent. In glaucoma there is a medical phase and a surgical phase and the important factor to remember and to know is when the medical phase has ended and when surgery should intervene. Surgery in these cases is best done early.

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Iridectomy is of little value and does little more good than that done by a good miotic. The best operation at present for this disorder appears to be the sclero-corneal trephine. This as a rule provides permanent filtration, is not mutilating, and does not result in light glare.

The present method of dealing with retinal separation is perhaps the greatest progress which has been made in ophthalmology in 10 years. At the present time cures are effected or at least useful vision is restored in 80 to 85 per cent. The present method is to use coagulation punctures by means of short needles to close up tears and for drainage, and by means of surface coagulation points to create spots of adhesive choroiditis to hold the retina in place. Success depends upon surgery being done within 4 to 6 weeks of the occurrence with rest in bed for 3 weeks and the wearing of pinhole goggles and inactivity for 10 weeks after treatment.

R. MARVEL KEAGY, *Reporter.*

LEHIGH

Aug. 14, 1940

The meeting consisted of the usual annual outing, and was held at Buckwood Inn at Shawnee on the Delaware.

Sept. 10, 1940

The meeting was held at the Sacred Heart Hospital, Allentown, and consisted of a "Symposium on Tuberculosis" which was sponsored by the Lehigh County Tuberculosis Society. It began at 10:30 a.m. The main points made by the following speakers will be summarized:

Esmond R. Long, director of the Henry Phipps

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HENRY AVENUE AND ABBOTTSFORD ROAD, EAST FALLS, PHILADELPHIA, PA.

Institute, Philadelphia, presented "The Methods and Progress in the Early Diagnosis of Tuberculosis." A careful history must be taken with attention to fatigue, a slight rise of afternoon temperature, the spitting of blood, loss of weight, or contact with another case. A careful physical examination should be made, also a roentgen-ray and a sputum examination. The roentgen-ray examination is the most helpful means of discovering an early case.

Burgess L. Gordon, associate professor of medicine, Jefferson Medical College of Philadelphia, presented cases of tuberculosis and outlined the treatment they had received at the Sacred Heart Hospital and clinic. Interesting points disclosed were the number of contact cases discovered, the number of people who were actually working while being treated with pneumothorax, and the definite improvement shown on the serial films while they were being treated in the clinic or hospital. Many of the patients were so robust in appearance that a diagnosis of tuberculosis would not occur to the practitioner. These were discovered because of the history of contact with an open case, blood-spitting, or an elevated temperature and undue fatigue.

Nathan H. Heiligman, chief of the State Pneumothorax Clinic of the Sacred Heart Hospital, Allentown, ably demonstrated many pneumothorax procedures.

Harold E. Hersh fluoroscopically pointed out many cavities, calcified glands, and tuberculous pulmonary areas.

Charles R. Reynolds, director of the Bureau of Tuberculosis Control, Harrisburg, presented "The Official Program of Tuberculosis Control in Pennsylvania." He is working to increase the number of hospital beds for open cases. There are still 700 cases on the waiting lists. The 1020 beds now available at Mont Alto will be increased to 1710 beds, the 757 beds now available at Cressona will be increased to 1007 beds, whereas the 870 beds at Hamburg will not be increased when the present program of hospital expansion will be completed. By institutionalizing the open case, fewer contact cases will develop. The state clinics are making attempts to examine all contacts of all cases of tuberculosis and teach them good hygiene. It has been

found that the majority of contact cases develop within 2 years. The public health nurses hunt up contacts and send them to the clinics or physicians.

Dr. Gordon presented "Pregnancy and Tuberculosis." He said that at Jefferson Hospital 42 cases of pregnancy with tuberculosis had been considered to warrant therapeutic abortion; 18 of these cases improved after the interruption of pregnancy; 24 of them got worse, and of these, 11 patients died.

There were 39 cases of tuberculosis with pregnancy admitted to White Haven which were permitted to go through labor. Of these, 8 patients died, 9 recovered, and the remainder were about the same after the pregnancy as before.

The disadvantages of interrupting pregnancy are the danger of infection and the mental and emotional shock to the patient. The disadvantages of permitting a tuberculous woman to continue her pregnancy to full term are: (1) The disturbance of general metabolism; (2) the wear and tear of labor and lactation; (3) the lowering of the diaphragm, heart, and lungs after delivery with increased movements of the lungs and spread of infection. (A tight abdominal support has been devised for wear after delivery to raise the diaphragm as high as it was before delivery.)

Dr. Gordon thinks pregnancy should not be interrupted after the fourth month, and that the tuberculous pregnant woman should be in a sanatorium for 2 months before delivery and for 4 months after delivery. The foot of the bed should be elevated and a tight abdominal binder worn after delivery. A phrenic nerve section should be performed after delivery. Pneumothorax is wise toward the end of pregnancy. The child should be removed from the mother after delivery before she sees it. The baby should, of course, be artificially fed.

A motion picture film was shown depicting the diagnostic procedures in tuberculosis—history-taking, physical examination, staining a slide of sputum, and roentgen-ray examination.

Royal H. McCutcheon, of Bethlehem, discussed the papers of the seminar and stressed the outstanding points of each paper.

Herbert R. Edwards, director of the Bureau of Tu-

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GENERAL—Fifty-fifth annual session began September 23, 1940. Catalog and information regarding courses on request. Address all communications to

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berculosis of New York City, presented the progress of tuberculosis case-finding in New York City. For a total of 157,000 cases surveyed and reported, there were 2595 cases of tuberculosis detected, indicating an incidence of 16 cases per 1000 for a coarse screening case-finding tuberculosis program for New York City.

ANNA M. ZIEGLER, Reporter.

LUZERNE

Sept. 18, 1940

The regular meeting of the society was held with President William Baurys presiding. Joseph V. Missett, Jr., Philadelphia, gave a most interesting and practical talk on "Medical Obstetrics."

He said, in part, that medical obstetrics deals with all obstetrics except normal and operative deliveries including cesarean section. This is a vast field and generally includes 3 groups—toxemias, infections, and hemorrhage. Generally most physicians are well informed about these and good results have been obtained in the past 10 years because of prenatal care, better information on the part of physicians, etc. In Philadelphia as elsewhere the mortality has been reduced and now is $2\frac{1}{2}$ to 3 per thousand live births. There is yet a lot to be done, as there is still much ignorance as far as proper management of cases with serious medical com-

plications is concerned. In Philadelphia deaths occur in this manner: 50 per cent from infections, 15 per cent from toxemias, 8 per cent from hemorrhage, and 25 per cent from maternal disease as pneumonia, heart disease, etc.

The state law requiring pregnant women to have a blood test for syphilis is a good one, as in hospital practice 1 to 3 per cent of white women show positive tests, and where there are colored persons the rate is higher. At Kensington Hospital, Philadelphia, the incidence is .8 of 1 per cent. When syphilis is found, a woman must be adequately treated in order to bear a normal nonsyphilitic child. Ninety-seven per cent is the incidence in children of untreated mothers, and fortunately very many die, prematurely or at term. With adequate treatment 85 to 90 per cent can be saved. It has been found that in positive cases an abortion is seen at the third month, in a second pregnancy at about 3 to 6 months, in a third one at 6 to $7\frac{1}{2}$ months, a fourth one is stillborn, and a fifth child delivered at term is well and healthy. Syphilis is blood-borne. The placenta harbors spirochetes.

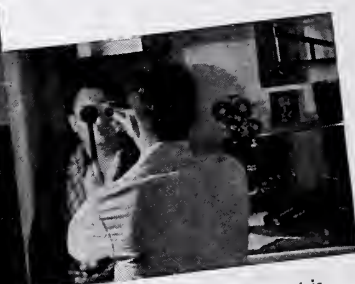
Adequate treatment consists of small doses of neoarsphenamine at 5-day intervals as .1 Gm., .2 Gm., .3 Gm., .4 Gm., and then for 8 injections give .4 Gm. Then bismuth salicylate is given at weekly intervals for 8 injections, then neoarsphenamine for 8 injections, then

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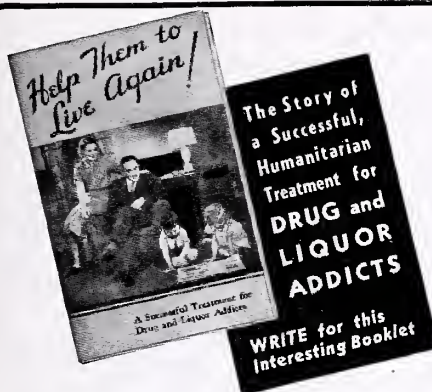
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bismuth salicylate, etc., and never the neosarsphenamine in the last month. If the course is begun at about the fifth month or earlier, a healthy nonsyphilitic child can be born. If a patient gives a history of previous treatment and shows a negative Wassermann reaction, follow the foregoing schedule in this pregnancy, as a syphilitic child will be apt to be born if this is not carried out. No child is diagnosed as syphilitic or not in the first 10 days of life as the Wassermann reaction may be negative; after 3 weeks the correct reading can be obtained.

Heart disease is much feared and it is amazing how well these women often get along. One to 2 per cent have organic disease and 90 per cent of these are rheumatic in type. The mortality is 5 to 10 per cent. All women have a terrific cardiovascular strain in pregnancy and complain of dyspnea, cyanosis, palpitation, etc. These cases are divided into 3 classes: (1) Those who complain of none of the usual symptoms when doing ordinary work and are apparently well women. (2) A. Those with slight symptoms when doing their usual work; B. those who exhibit symptoms when at rest and decompensate and are poor risks for pregnancy and labor. (3) Those who exhibit all the decompensating symptoms and do not respond to the usual treatment. Groups 1 and 2 A stand labor well and 2 B stands it poorly. The latter group must have a lot of rest, especially in the last months. Digitalis is not so good; sedatives work better, even morphia. If decompensation is present, digitalis is to be used. Cesarean section is not indicated unless sterilizing the patient is to be considered. Group 3 patients are the greatest risks and give the high mortality. In primiparae cesarean section is

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best; in multiparae it can be done, but they nearly always go bad in the first 3 days from cardiac dilatation.

Thyroid disease complicates pregnancy. These cases present problems of sterility and may be underactive as well as overactive. If a woman habitually aborts, think first of hypofunction and next of hyperfunction. Always deduct 10 from any metabolic reading because of nervous factors in the patient. If a hyperthyroid case, the woman is apt to be sterile, to miscarry, or go into labor prematurely. Treatment differs. There may be adenomas which are not toxic and these will become so under treatment. If a hyperthyroid case is seen in the first half of pregnancy, operate and remove the gland. If seen in the last half, operate too, but not in the last month. Carry this one along on large doses of Lugol's solution and prepare her for operation as soon as possible after delivery.

In the hypothyroid case give thyroid during pregnancy.

Acute infectious diseases, especially lobar pneumonia, are dangerous to the pregnant woman and the child. The death rate is higher than among nonpregnant women. Fully 50 per cent are lost the last 4 months of pregnancy. Labor begins because of elevated temperature, anoxemia, and toxemia. If pregnancy is terminated prematurely by the physician she stands this poorly; so do nothing and let her go into labor herself. The chances for her recovery are better than by interference.

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will die and this is chiefly due to lack of rest in caring for the child and ordinary household duties.

Toxic vomiting of early pregnancy is influenced by many factors, such as family difficulties, etc., which make the patient nervous. Everyone who vomits is a toxic patient. Treat for the true toxic vomiting. It is believed that ferments are given off and after 3 months the vomiting stops. Some say there is an endocrine imbalance and low vitamin C, so adrenalin has been given because it contains the latter. One treatment now in use in Philadelphia is the following: 1 mg. ampule of progestin or progesterone is given hypodermically for 2 days, and on the third day 2 ampules are given. After 10 days to 2 weeks there is usually a recurrence; then another course is given and it will relieve the patient again.

In discussion Joseph J. Kocyan, Wilkes-Barre, said that prenatal care was begun in Philadelphia 120 years ago at the University of Pennsylvania by Dr. Shippen. Pregnancy does test every element of the human body. Women should be kept as well as possible, and a full medical history taken. Syphilis in this valley has decreased since the clinics were established some years ago. Their incidence is .2 of 1 per cent in pregnant women. Goiter is mildly endemic with 25 per cent among them. It begins in adolescence and later becomes active. Many cases are benefited by early surgery.

Thomas R. Gagion, Pittston, said that he is on the committee to investigate maternal deaths, and all physicians should co-operate to aid in the reduction of mortality. No one realizes what it means until his own wife or child dies at this time of life. Articles about pregnancy as published in leading magazines make women fearful of pregnancy and should be combated.



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Max Tischler, Wilkes-Barre, said that the Luzerne County Maternal Welfare Committee has difficulty in getting the physicians to co-operate as they think the committee is prying into their cases and trying to blame them for the results. This year they are trying to go into different sections of the county for the survey.

Albert J. Valibus, Edwardsville, inquired as to the management of cases with fibroid tumors.

Dr. Missett, in closing, said that at any stage of pregnancy, if a fibroid tumor is growing fast, surgical interference is required. If at term, watch for hemorrhage, and if this proves severe, hysterectomy must be done at once.

MARJORIE E. REED, *Reporter*.

LYCOMING

Sept. 13, 1940

The regular meeting was held in Medical Hall, at the Williamsport Hospital, at 1:30 p. m.

The society was addressed by Herbert Koepp-Baker, Ph.D., of Pennsylvania State College, who spoke on "Speech Disorders." Dr. Koepp-Baker introduced himself by stating that good speech must have a modicum of intelligibility, and must be pleasant to listen to. It has only been in recent years that speech has been scientifically studied, although since it is perhaps the one thing that separates us from the lower animals, changes in speech have long interested many observers. It is estimated that there are a million inhabitants of the United States who are afflicted in some way or another so that their verbal relations with their fellow men are a distinct handicap to them.

Since speech is our most recent biologic acquisition, it is very often the most easily destroyed. It is also of

interest because there is no one organ which is devoted to speech alone, employing as it does certain portions of the respiratory system, certain portions of the alimentary tract, larynx, pharynx, and upper respiratory system. Therefore, speech has made one function out of 3 systems. Disorders of speech may be found to encompass changes of rhythm, changes in quality, abnormalities of articulation, changes in voice pitch, and errors in symbolic formation.

Speech disorders are often the major precipitating factor in mental changes and personality disorders. Hence it is important from the viewpoint of the psychiatrist that speech disorders be corrected as early as possible, so that their presence does not permanently damage the individual in his contacts with others. Among the common physical causes of defective speech may be included birth injuries, tongue tie, although this is rarely a cause, and malformation of the bony or soft tissue. Dr. Koepp-Baker admits his prejudice in the importance of speech, and yet when we stop to think of the vital function which speech plays in our everyday lives, we can easily understand why any effort to improve the speaking abilities of the populace would be of great value to the communities at large.

Dr. Koepp-Baker then spoke on the rather remarkable personality changes which he has obtained following correction of speech defects, and of the great help which practitioners in medicine can give in the early recognition and early treatment of speech lesions. The advent of the recording phonograph has aided the immense interest in this science, since it provides an easy method of evaluating the progress of the patient. Dr. Koepp-Baker played numerous examples of the speech defects of patients for the society, and the improvement found in many cases was truly remarkable.

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PHONE 117

This program was a deviation from the usual scientific discussion presented before the society, but it certainly is an important work which can well be called to our attention. Dr. Koepp-Baker is a fluent speaker.

The meeting closed at 3:45 p.m.

EDWARD LYON, JR., *Reporter.*

WARREN

Sept. 16, 1940

The society was addressed by Russell L. Haden, M.D., of the Crile Clinic, Cleveland, Ohio. He spoke on the subject of "Anemia," an abstract of which follows:

Considering the blood in its totality as an organ, it is the longest in the body, but differing from the average organ, it changes its contents with great rapidity. About 25 trillion red cells are renewed at the rate of one billion every minute. The term erythron is applied to the cells in toto.

Anemia can be called a loss of balance between the formation and the destruction of red cells. This balance is altered by an actual loss as in hemorrhage or decreased formation or both.

It is important for proper treatment to study the blood from 5 angles: (1) cell count; (2) reticulocyte percentage to determine new cell formation; (3) bilirubin content of plasma as an index of destruction; (4) hematocrit reading for showing size of cell; and (5) color index.

The types of anemia were described in brief; first, according to the size and color of the cell, then from a clinical standpoint. Symptoms, etiology, and treatment were outlined. The erythrocyte, or maturing factor, designated as E.M.F., is important to determine. When this is absent or lessened, iron is of little value; liver therapy is indicated.

The appearance of the tongue in pernicious anemia was dwelt upon. It is usually clean and uncoated, but as improvement occurs the tongue becomes normal. A vitamin B deficiency presents a different type of tongue. When iron is needed, ferrous carbonate as found in

Blaud's pill or ferrous sulfate are the best forms to employ. The dosage should be adequate—45 to 60 grains of Blaud's mass, or 9 to 12 grains of sulfate daily.

Iron is important in adult females because of menstrual loss of blood and pregnancy. It is recommended once a month as a routine for women.

Many diagrams were shown illustrating the various factors involved and adding much to the instructive value of the talk.

The attendance was good.

The county society passed a motion offering the services of the members in the conscription program. William L. Ball was elected to membership. The hosts for the dinner which followed were Drs. Larson, Knapp, McCune, and O'Connor.

MICHAEL V. BALL, *Reporter.*

THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

Scientific Lectures for 1940-41

Meetings at 8:30 p.m.

- | | |
|----------------|--|
| Sept. 25, 1940 | Nathan Lewis Hatfield Lecture XXIV, George W. Corner, M.D., director, Department of Embryology, The Carnegie Institution of Washington, Baltimore. "The Physiologic Basis of Corpus Luteum Therapy." |
| Nov. 6, 1940 | S. Weir Mitchell Oration VIII, John F. Fulton, M.D., Sterling professor of physiology, Yale University. "Neurology and War." |
| Dec. 4, 1940 | Thomas Dent Mütter Lecture LIII, Allen O. Whipple, M.D., professor of surgery, College of Physicians and Surgeons, Columbia University. "Recent Studies in the Circulation of the Portal Bed and of the Spleen in Relation to Splenomegaly." |



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ALBERT STRICKLER, M.D., *Medical Director*

- Jan. 8, 1941 James M. Anders Lecture XVI, Thomas Francis, Jr., M.D., New York University. "The Problem of Epidemic Influenza."
- Feb. 5, 1941 Mary Scott Newbold Lecture XLVIII, Thomas T. Mackie, M.D., assistant clinical professor of medicine, College of Physicians and Surgeons, Columbia University; attending physician, Roosevelt Hospital. "Studies in Ulcerative Colitis."
- Mar. 5, 1941 Alvarenga Prize Lecture, Ernest W. Goodpasture, M.D., professor of pathology, Vanderbilt University. "The Cell-Parasite Relationship in Bacterial and Virus Diseases."
- Apr. 2, 1941 Nathan Lewis Hatfield Lecture XXV, George L. Streeter, M.D., Carnegie Embryological Laboratory, Johns Hopkins University, Baltimore. "New Data on Embryogenesis in Monkey and Man" (Illustrated).
- May 7, 1941 James M. Anders Lecture XVII, Henry F. Vaughan, M.D., Commissioner of Health, Detroit, Mich. "The Way of Public Health."

Lectures for the General Public, 8:30 p. m.

- Nov. 15, 1940 Chevalier Jackson, M.D., honorary professor of broncho-esophagology, Temple University School of Medicine. "The Bronchoscope" (lantern and motion picture demonstration of the instrument, its uses, and what it has contributed to medical science and public welfare).
- Jan. 24, 1941 Hubley R. Owen, M.D., Director of Public Health, Philadelphia. "Activities of the Department of Public Health, With Plans for the Future."
- Apr. 18, 1941 Richard A. Kern, M.D., professor of clinical medicine, University of Pennsylvania Medical School. "Allergy and You."

"DOCTORS AT WORK"

"Doctors at Work" is the title of the sixth annual series of dramatized radio programs to be presented by the American Medical Association and the National Broadcasting Company.

The series will open Wednesday, Nov. 13, 1940, and run for 30 consecutive weeks, closing with a broadcast from the A. M. A. meeting at Cleveland, June 3, 1941. The program is scheduled for 10:30 p. m., Eastern Standard Time (9:30 Central; 8:30 Mountain; 7:30 Pacific time) over the Blue network, other NBC stations, and Canadian stations.

The programs will dramatize what modern medicine offers the individual in the way of opportunities for better health and the more successful treatment of disease. Incidental to this main theme, the programs will explain the characteristics of the different fields of modern medicine and its specialties.

"Doctors at Work" will be broadcast from scripts by William J. Murphy, NBC script writer and author of many previous AMA-NBC "shows" and other popular radio features. It will be produced under the direction of J. Clinton Stanley, director of "Medicine in the News," last season's successful AMA-NBC health program. Supervision will be by the A. M. A. Bureau of Health Education, directed by W. W. Bauer, M.D.

Descriptive posters for local distribution may be had gratis from the Bureau of Health Education, American Medical Association, 535 N. Dearborn St., Chicago. Program titles will be announced weekly in *The Journal of the A. M. A.* and monthly in *Hygeia, the Health Magazine*.

CUTTING DOWN ON DRUG USERS

Federal agencies announce that with an estimated total of "only" 50,000 drug addicts in the United States, the number has fallen considerably below that of former years. The reason ascribed is that drug peddlers, always "cheaters" in the adulteration and dilution of drugs they sell, have carried this to such an extent that former addicts have been subjected to a sort of involuntary cure.

Formerly, Federal Bureau of Narcotics officials assert, the average peddler diluted his product as much as 91 per cent, but because of high prices and constant pursuit by federal agents and police they have lately made it as high as 99 per cent.

This may be so and may have contributed to the reduction in the number of addicts. But it would not be very safe to count on. Reducing the drug traffic to a minimum must be accomplished by unremitting and relentless warfare on the part of all agencies, national, state, and local.—Editorial, *Philadelphia Inquirer*, Aug. 19, 1940.

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THE WOMAN'S AUXILIARY

MRS. GEORGE C. YEAGER, *Editor*
1419 E. Susquehanna Avenue
Philadelphia, Pa.

AN EXPRESSION OF THANKS

The Woman's Auxiliary to The Medical Society of the State of Pennsylvania wishes to thank Mrs. M. Fraser Percival, convention chairman, and all the women of Philadelphia and neighboring counties for hospitality extended during convention week. Everything possible was done to make our visit happy, comfortable, and interesting. We thank these women who have labored so willingly and well to make this an outstanding convention.

JESSIE W. (MRS. GEORGE C.) YEAGER,
Chairman of Publicity.

understanding for the combined program of the auxiliary as you have so willingly given to my predecessors. With your help only can big things be accomplished for our auxiliary and indirectly for the medical profession. Remember your auxiliary needs you—your husband's profession needs you. Together we can accomplish real things.

I am anticipating with sincere pleasure my personal contacts with you during the coming year. It will be a great joy to work with you, and for our grand medical fraternity.

Cordially,

MARY (MRS. MAXWELL) LICK,
President.

PRESIDENT'S LETTER

DEAR AUXILIARY MEMBERS:

Here in Philadelphia, at this inspiring convention, I write my first letter to you.

As I sit alone for a few minutes, I am thrilled with the thoughts of the splendid reunions of old friends who meet each year at the conventions. You who have not made the state convention a habit should acquire it. It is a real inspiration because you are associated with the finest women who ever met in a combined body. I shall always count it as one of my happiest associations.

These Philadelphia women, with their kindly Mrs. M. Fraser Percival as chairman, have entertained us far beyond our wildest desires. We have had a grand time with them and with the delegates who have contributed so much. I only wish for you who were unable to come the joy of being with us next fall and experiencing for yourself all the fine things which come out of our meeting together in the sympathetic bonds of understanding and friendship.

As we approach another year for our auxiliary, I am keenly appreciative of the honor as well as the responsibilities which you have given me. I'll do my best to hold your confidence. May I beg the same co-operation and sympathetic

CONVENTION REGISTRATION AT PHILADELPHIA

Report of Registration and Credentials Committee:

Auxiliary members	198
Executive Board members	37
Delegates	94
Alternates	49
Guests	30
Total	408

COUNTY AUXILIARY REPORTS

Berks.—The auxiliary met Sept. 9 at "Idle Hours," the summer home of Dr. and Mrs. Sidney J. Sondheim, which was an attractive setting for the opening meeting of the auxiliary. Mrs. Ralph L. Reber presided.

A report from the executive board meeting disclosed the decision to discontinue the Public Health Institute. An open meeting will be substituted Feb. 10, 1941, when Edward L. Bortz, M.D., of Philadelphia, will speak on "Diabetes." Programs for the year were distributed. Delegates and alternates to the state convention were elected.

Refreshments were served and several hours were spent by the members in visiting with one another in the old-fashioned garden.

Eight of our members attended the Second Councilor District meeting at Quakertown, and 4 members attended the pre-convention meeting in Philadelphia.

Bucks.—The annual meeting of the auxiliary was held at the Grand View Hospital, Sellersville, on Sept. 11. After having dinner with the medical society, we had our business meeting. All yearly reports were read.

A dinner party was given, and from the proceeds \$35 was contributed to the Medical Benevolence Fund. *Hygeia* subscriptions were sent to schools, the money being raised by selling writing paper and holding a card party.

The membership is 27, with 9 honorary members.

The auxiliary was very fortunate in having the Second Councilor District meeting on Sept. 12 at Trainer's Restaurant in Quakertown. It was one of the largest meetings of the Second District, with an attendance of 104 members and guests. Mrs. E. Arthur Whitney, councilor, presided at the meeting.

After reports from the committees were heard, an address was given by Mrs. Maxwell Lick, of Erie, president-elect of the State Auxiliary. Mrs. M. Fraser Percival, convention chairman, gave a talk and urged everyone to attend the convention in Philadelphia in October.

Clinton.—On July 26 Mrs. John H. Doane entertained at luncheon at her home in Mansfield, Mrs. Walter S. Brenholtz, Mrs. Wilfred W. Wilcox, and Mrs. Edward Lyon, of Williamsport, and Mrs. John R. Davies, of Blossburg.

Mrs. Luther Holloway, widow of Dr. Holloway, of

Salona, died on July 5, age 85. She was a member of the Clinton County Auxiliary.

The nominating committee of the State Auxiliary has held 2 unusual meetings over the telephone. The members of the committee are Mrs. J. K. Williams Wood, Troy, chairman, Mrs. R. Powers Wilkinson, Philadelphia, Mrs. David W. Thomas, Lock Haven, Mrs. Laurrie D. Sargent, Washington, and Mrs. Edward Lyon, Williamsport. The telephones of these women were connected at one time with Mrs. Wood's telephone, and in 15 minutes business was transacted which otherwise would have taken hours of travel or correspondence. This has proved a very interesting experience.

Erie.—The auxiliary met in regular session, Sept. 9, at the Lake Shore Club, Erie. Following luncheon, Mrs. Maxwell Lick introduced the new president and president-elect, Mrs. John F. Hartman and Mrs. Frank J. Theuerkauf. During the summer it was necessary to call a special board meeting to elect the above officers, Mrs. Cecil E. Ross and Mrs. Adelbert B. Miller, formerly holding these offices, having resigned. Delegates and alternates were appointed to attend the convention in Philadelphia, Sept. 30 to Oct. 3. At the conclusion of the business session, Mrs. Ralph D. Bacon, clipping chairman, gave an interesting report. The meeting adjourned at 3:45. There were 67 members present.

Lackawanna.—A luncheon followed by the annual meeting was held Sept. 10 at the Hotel Jermyn, Scranton, with approximately 45 members present. Mrs. Francis M. Ginley was in charge of the luncheon. Officers and chairmen of the various committees gave their monthly and annual reports. Mrs. Harry Good-



You must be getting ready for Children's Day, Dr. Brown, buying all this Chewing Gum.

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CANNED FOODS AS SOURCES OF THE ESSENTIAL NUTRIENTS

● Early in this century, the existence of "accessory food factors"—the vitamins—was demonstrated by animal experiments (1, 2). Since that time, building upon information established by earlier investigators regarding the calorie, protein, and mineral needs of man, contemporary workers have developed a practical and fairly complete working knowledge of nutrition. At the present time, the fundamental human dietary requirements are considered in terms of some thirty substances of known chemical composition plus a number of factors whose chemical natures still await determination (3). Likewise, the dietary values of foods also may be discussed in terms of these same essential nutrients.

Viewed from a physiological basis, nutritional failures appear to be conditioned either by consumption of a diet deficient with respect to certain of the essential food factors or to altered processes in metabolism which prevent the efficient absorption and utilization of foods (1). Failures of the latter type can be corrected only by elimination of the defects in metabolism, or by administration of nutrients by routes which permit utilization. However, the vast majority of nutritional failures are associated with the consumption of diets deficient with respect to essential food factors. In the following quotation, the facts regarding malnutrition resulting from faulty diet are concisely stated (1):

"Three facts concerning nutritive failure are becoming increasingly obvious: first, that it does not come solely from lack of vitamins

but from deficiency of proteins and minerals as well; in certain of the lower animals, it comes even from lack of fats; second, that in America it is seldom complete; and third, that it is not, as a rule, the expression of a single nutritive fault. More often it is partial in extent and multiple in nature, with a clinical picture that is correspondingly lacking in detail and hazy in outline."

Although nutritional diseases are manifestations of the prolonged consumption of diets deficient with respect to amino acids, minerals, and vitamins, students of the problem agree (2, 4, 5, 6) that elimination of malnutrition is primarily a problem of increasing the variety of foods regularly eaten. Special emphasis should be placed upon the judicious consumption of familiar foods such as meats, (including glandular organs, poultry, sea food, and fish); eggs; milk in its many forms; milk products; fruits and vegetables; legumes; and the whole cereals and their various products. Thus, in its practical application (7), nutrition may be viewed as "an economic, agricultural, industrial and commercial problem, as well as a problem in physiology."

The nutritive values of canned foods have indeed been well established by means of numerous studies (8). By transforming foods, from the perishable condition in which they are harvested, to canned foods which may be stored for consumption in all seasons, the canning industry has rendered great assistance in carrying out the program designed to eliminate malnutrition in America.

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REFERENCES

1. 1939. J. Am. Med. Assoc. 112, 2110.
2. 1938. J. Am. Med. Assoc. 111, 1073.
3. 1940. J. Med. Assoc. Alabama 9, 365.
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7. 1935. Quart. Bull. Health Organ. League of Nations 4, 326.
8. 1939. Canned Food Reference Manual, American Can Company, New York.

We want to make this series valuable to you, so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned-foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles. This is the sixty-fifth in a series which summarizes, for your convenience, the conclusions about canned foods reached by authorities in nutritional research.



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friend then inducted the officers and directors elected in June for the coming auxiliary year (published in September issue of the JOURNAL).

The following were appointed to represent Lackawanna County at the state convention to be held in Philadelphia, Sept. 30 to Oct. 3: Delegates—Mrs. Walter J. Larkin, Mrs. James D. Lewis, Mrs. Ernest L. Kiesel, and Mrs. W. Rowland Davies; alternates—Mrs. Frederick J. Bishop, Mrs. Frank A. Carroll, Mrs. Ulrich P. Horger, and Mrs. J. Norman White.

After her message to the auxiliary, as re-elected president, Mrs. Louis A. Milkman announced committee chairmen for the coming year.

Lehigh.—The regular monthly business meeting of the auxiliary was held on Sept. 10 at the Allentown Woman's Club.

Mrs. Elmer H. Bausch, president, was in charge of the meeting at which reports of officers and committee chairmen were received. One new member was welcomed into the auxiliary, Mrs. N. K. Fegley, mother of Homer B. Fegley, M.D., of Catasauqua. Members assisted in conducting a flower booth at Hess Bros. Department Store on Saturday, Sept. 14, in the city-wide flower mart of the Women's Co-ordinating Council of Lehigh County for the benefit of the Girl's Haven. Another donation of \$15 was made to the American Red Cross, making a total of \$25 for this year.

Delegates chosen for the sixteenth annual convention of the Woman's Auxiliary to The Medical Society of the State of Pennsylvania, Sept. 30 to Oct. 3, included Mrs. Carl J. Newhart, Hokendauqua; Mrs. Aaron D. Weaver, Macungie; Mrs. Charles R. Fox, Northampton; Mrs. J. Edwin S. Minner, Egypt; and Mrs. Victor J. Gangawere, Allentown.

Alternates were Mrs. John H. Hennemuth, Emmaus; Mrs. Harry J. S. Keim, Catasauqua; Mrs. Joseph D. Rutherford, Mrs. Thomas H. Weaver, and Mrs. John J. Wenner, all of Allentown. Mrs. Bausch, the president, Mrs. J. Treichler Butz, a director on the state board, Mrs. Laurence C. Milstead, state chairman of exhibits, and other members also planned to attend the sessions.

A musical program and tea followed.

On Sept. 12 approximately 25 members of Lehigh County Auxiliary attended the councilor district meeting held at Trainer's in Quakertown.

Philadelphia.—The auxiliary members have been very busy planning the entertainment for the annual convention held in Philadelphia, Sept. 30 to Oct. 3. Many enjoyable meetings have been held under the able leadership of Mrs. M. Fraser Percival.

Edward L. Bortz, M.D., president of the Philadelphia County Medical Society, regards the work of organized medicine a function of our auxiliary, and he will provide physicians to report on the affairs of the county and to suggest ways and means by which we may be most helpful.

An outing to the World's Fair was planned for Oct. 16. Mrs. John B. Lownes is chairman of outings.

Schuylkill.—The auxiliary resumed its activities on Sept. 10 when 15 members met at the Necho Allen Hotel, Pottsville.

Mrs. Walter R. Rentschler, president, had charge of the business session, which was followed by a short social meeting and refreshments.

Announcement was made that a check in the amount of \$189.71 was sent to the Medical Benevolence Fund, which represents the chief project of the auxiliary. This

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amount was in excess of the quota set aside for the Schuylkill County unit.

A vote of thanks was given to the merchants who contributed prizes to the annual bridge party conducted by the organization at the Schuylkill Country Club on June 18.

The auxiliary has continued to grow since its inception and it now has 72 paid-up members.

The following officers were elected: Mrs. Charles V. Hogan, Pottsville, president; Mrs. John J. Moore, Pottsville, first vice-president; Mrs. John W. Conrad, Port Carbon, second vice-president; Mrs. Earl F. Conlin, Minersville, recording secretary; Mrs. Francis K. Moll, Pottsville, corresponding secretary; Mrs. J. William Jones, Pottsville, treasurer; Mrs. Robert W. Lenker, Schuylkill Haven, custodian.

Mrs. Rentschler, the retiring president, spoke to her colleagues, thanking them for their generous assistance during the year. She was presented with a red rose corsage in appreciation of her work.

Delegates elected to the state convention in Philadelphia from Sept. 30 to Oct. 3 were Mrs. John J. Moore and Mrs. Henry A. Dirschedl, Pottsville, and Mrs. T. Lamar Williams, Mt. Carmel. Alternate delegates named were Mrs. Waldemar T. Fedko and Miss Kurey, Gordon, and Mrs. Charles V. Hogan, Pottsville.

The Schuylkill County Auxiliary planned to place on exhibit at the convention a map of the county marked with outstanding symbols showing the hospitals throughout the county. This was designed by Miss Isabel Rentschler, daughter of Mrs. Rentschler, the retiring president.

Tioga.—The last meeting of the fiscal year took the form of a business meeting at which the officers for the coming year were elected and plans for the ensuing year were discussed. We have felt that the year just completed has been a fairly successful one under the capable leadership of Mrs. John R. Davies. We plan our new year to follow along the same general lines and we hope to progress even further.

The officers for the coming year are as follows: President, Mrs. Farnham H. Shaw; president-elect, Mrs. Lewis E. Wells; vice-president, Mrs. L. D. Washburn; secretary, Mrs. Archibald Laird; treasurer, Mrs. John R. Davies.

Mrs. Archibald Laird was to attend the state convention as delegate, and Mrs. William Bache, Jr., as alternate. Mrs. Doane and Mrs. Davies, State Auxiliary officers, and Mrs. Washburn also planned to attend.

The meeting closed with a feeling of enthusiasm and anticipation for the coming year.

Westmoreland.—The auxiliary meeting was held at Village Inn, Sept. 10, at 1 p.m. The new officers for 1941 are as follows: President, Mrs. Paul G. McKelvey; president-elect, Mrs. William H. Robinson; recording secretary, Mrs. William V. Conn; corresponding secretary, Mrs. Henry A. McMurray, Jr.; first vice-president, Mrs. George Toth; second vice-

president, Mrs. William J. Potts; treasurer, Mrs. Lawrence L. Blackburn; assistant treasurer, Mrs. Howard H. Hamman. The directors are Mrs. John H. Krick, Mrs. Arthur B. Blackburn, Mrs. Urban H. Reidt, Mrs. John C. Brisbane, Mrs. James W. Sillaman, and Mrs. Joseph H. Watson.

York.—The autumn meeting of the auxiliary was held on Tuesday afternoon, Sept. 10, in the Professional Building, York. The new president, Mrs. Elwood P. Flanders, was in charge of the meeting and announced her committees for the ensuing year. The hostesses were Mrs. Raymond M. Lauer, Mrs. Arthur L. Evans, Mrs. C. J. Fisher, Mrs. Chalmers D. Ensminger, Mrs. Samuel H. Ensminger, and Mrs. August A. Gabriele.

DOCTOR'S WIFE HAS HER OWN TEN COMMANDMENTS

She must not know the meaning of the word "jealous." She must never gossip.

She must run a cafeteria, serving meals at all hours for her husband.

She must be—like Caesar's wife—above reproach.

She must have self-reliance and self-control.

She must be able to think quickly and sanely in emergencies.

She must be a diplomat, see all, hear all, say a lot, yet say nothing.

She must learn to bear stoically, and without complaint, disappointments in her personal plans.

She must be a good mother and father, because doctors are often too busy to discipline their own children.

She must be a good "doctor" because doctors never take time to doctor themselves.—Author Unknown, *Wichita Medical Bulletin*.

HERE AND THERE

THE DOCTOR.—He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only remembered to be marveled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practice an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, herculean cheerfulness and courage. So it is that he brings air and cheer into the sickroom, and often enough, though not so often as he wishes, brings healing.—OLIVER WENDELL HOLMES.

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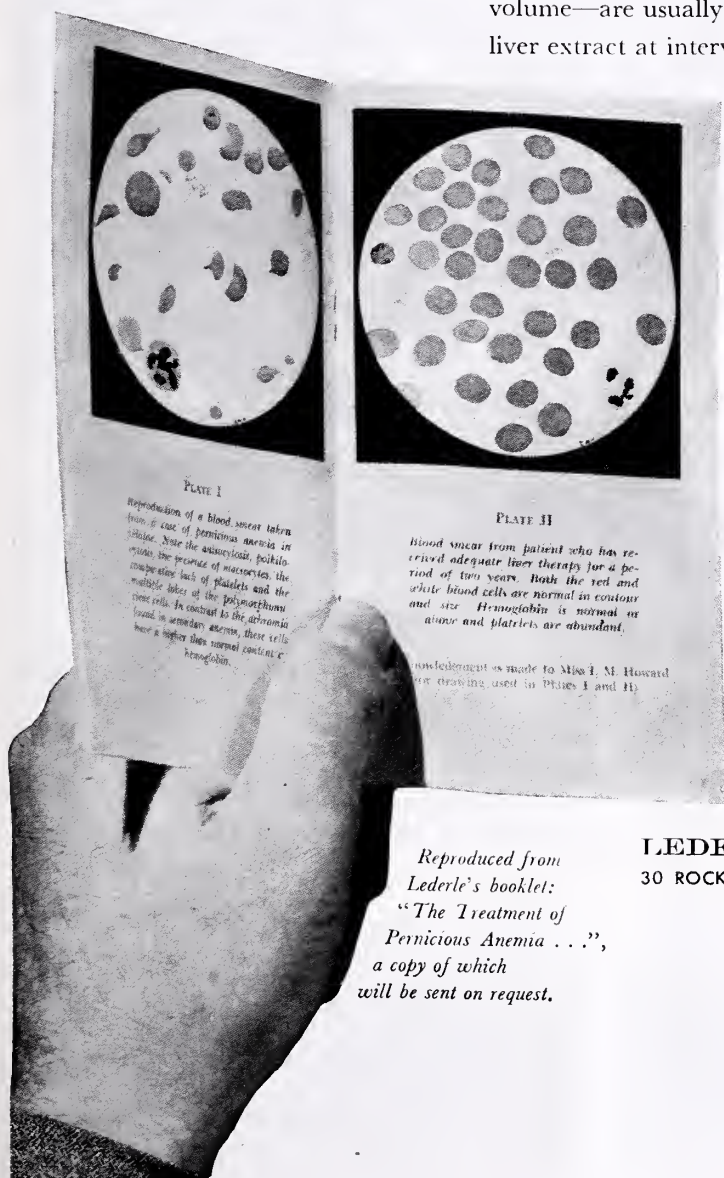
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MEDICAL NEWS

Births

TO DR. AND MRS. JOHN L. CAREY, of Kingston, a daughter, Sept. 11.

TO DR. AND MRS. JOSEPH W. GROSH, of Lititz, a son, Sept. 16.

TO DR. AND MRS. JOHN M. HOLLINGSWORTH, of Erie, a son, John M., Jr., early in September.

TO DR. AND MRS. STANLEY C. SUTER, of Millersville, a daughter, Sandra Lee, Aug. 29.

Engagements

MISS MARTHA JANE BODLEY, of Philadelphia, and Frederic J. Kellam, Jr., son of Dr. and Mrs. Kellam, of Indiana.

MISS SARAH ANN MITCHELL, of Wayne, and Joseph Pancoast Reath, M.D., son of Mrs. Benjamin B. Reath and the late Dr. Reath, of Philadelphia.

MISS MARIAN KIRK, daughter of Captain Alan Goodrich Kirk, U. S. N., and Mrs. Kirk, of Washington, D. C., and John W. Appel, 3d, M.D., of Philadelphia.

Marriages

MISS CARRIE LEE SISK, of St. Louis, Mo., to Anthony R. Minadeo, M.D., of Erie, Sept. 18.

MISS GOLDA WOOD, formerly of Erie, and more recently of Uniontown, to Robert P. Gearhart, M.D., of Erie, Aug. 28.

MISS MARTHA JANE BARNARD, daughter of Dr. and Mrs. Everett P. Barnard, of Bryn Mawr, to Mr. Henry Clark Whittlesey, of Philadelphia, Sept. 30.

Deaths

JOHN WESLEY BARKLEY, Ligonier (Westmoreland County); Jefferson Medical College of Philadelphia, 1897; aged 72; died Aug. 29. Dr. Barkley was born at Jones Mills, Feb. 10, 1868, a son of Joseph and Maria (Beistle) Barkley. He attended California State Teachers' College. He was a member of his county and state medical societies and the A. M. A. In 1907 Dr. Barkley was married to Carolyn Markey. His wife, a daughter, and 3 sons survive.

WILLIAM HENRY BERGE, Scranton; College of Physicians and Surgeons of Baltimore, 1893; aged 71; died July 14. Dr. Berge was born in Scranton, Nov. 20, 1868, a son of Frederick W. and Catherine (Langan) Berge. He received his early education in the Scranton public schools. Following his internship at the State Hospital, Scranton, he began the practice of medicine at Avoca, where he remained for 25 years. Eighteen years ago he moved to Scranton. Dr. Berge had been surgery consultant at St. Mary's and the Taylor Hospitals, Scranton. He served a 3-year term as chairman of the Luzerne County Board of Health and was coroner of that county for a term. While a resident of Avoca, Dr. Berge was a member of the borough council for 2 terms, and was later elected burgess. He was a member of his county and state medical societies and the A. M. A. He was a charter member of the Pittston Council, Knights of Columbus, and also held membership in the Elks. Surviving are his wife, Anna Kirkhuff Berge, 4 daughters, 2 sons, 3 sisters, a brother, and 21 grandchildren. He was retired.

ELLEN ELIZABETH BROWN, Graterford; Woman's Medical College of Pennsylvania, 1881; aged 91; died July 29. Dr. Brown was a member of the Delaware County Medical Society, the State Society, and the A. M. A. For many years she was on the staff of the Chester Hospital. She was retired.

MRS. MARY McMAHON CLARK, widow of William L. Clark, M.D., Philadelphia, aged 63, died Sept. 29. Four sons, 2 daughters, a brother, and a sister survive.

RALPH HARPEL DUNLAP, of Bellevue (Allegheny County); Johns Hopkins University School of Medicine, Baltimore, 1919; aged 49; died Aug. 7. Dr. Dunlap was born Oct. 3, 1891. He was a native of Danville and a son of John F. and Mary E. Dunlap. He attended the Lewisburg and Williamsport public schools, and was graduated from Albright Preparatory School, Myers-town, in 1910, and from Albright College in 1914. Dr. Dunlap served an internship from April to June, 1919, in obstetrics at the Woman's Hospital of Maryland, and from Aug. 1, 1919, to Aug. 20, 1920, at the New Haven Hospital, New Haven, Conn., in the department of gynecology and obstetrics. He began the practice of medicine at Bellevue in 1922. Dr. Dunlap was appointed instructor in obstetrics at the University of Pittsburgh School of Medicine in 1920 and was advanced to demonstrator in obstetrics (maternity dispensary) at the same university in 1921. In 1922 he was appointed chief obstetrician to the maternity dispensary of St. John's General Hospital of Pittsburgh. Dr. Dunlap was a member of his county and state medical societies and the A. M. A., the Pittsburgh Medical Bureau, and a diplomate of the American Board of Obstetrics and Gynecology. During the World War Dr. Dunlap enlisted as a private in the U. S. Army Medical Corps, Dec. 21, 1917, and was discharged Nov. 22, 1918. In 1920 he was married to E. Mae Lenniger. His wife and a son survive.

IRWIN SCOTT FLEGAL, Karthaus (Clearfield County); University of Pittsburgh School of Medicine, 1894; aged 75; died July 28. Dr. Flegal was born in Goshen Township, Clearfield County, Feb. 2, 1865. After attending local public and state normal schools, he taught school for a number of years. Dr. Flegal began the practice of medicine at Lumber City where he remained until 1898 when he moved to Karthaus, remaining there until his death. He was a member of his county and state medical societies and the A. M. A. He served as a school director for years, was examiner for a number of insurance companies, and was physician to several local coal mining operations. Surviving are 2 daughters and a son.

JOSEPH MAURICE JACKSON, Pittsburgh; Columbia University College of Physicians and Surgeons, New York, 1899; aged 63; died July 31. Dr. Jackson was especially interested in surgery. He was a member of his county and state medical societies and the A. M. A.

JOSEPH McIVER, Philadelphia; University of Texas Faculty of Medicine, Galveston, 1912; aged 54; died suddenly at Bryant, Texas, Sept. 7. Dr. McIver was born in Madison County, Texas, Sept. 27, 1886, a son of Walter and Jennie (Searcy) McIver. His early education was received at Rogers Prairie, Texas. His internship was served at St. Mary's Hospital, Galveston, Texas.

Dr. McIver, who came to Philadelphia as a young physician, was appointed assistant chief resident physi-

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cian of the Philadelphia General Hospital in April, 1913, serving in that capacity with a rotating service until February, 1916. He then entered private practice and was appointed assistant neurologist to the Philadelphia General Hospital and instructor in neurology at the University of Pennsylvania School of Medicine in 1926. He was later promoted to associate in neurology. He was on the staffs of the following hospitals: neurologist to the Misericordia Hospital, Philadelphia, also the Fitzgerald-Mercy and the Nazareth Hospitals, and chief on the neurologic-psychiatric staff of the Philadelphia General Hospital in 1917. He was appointed neuropsychiatrist to the House of Detention of Philadelphia and served in that capacity until his death. He was a member of his county and state medical societies and a Fellow of the A. M. A., also a member of the Philadelphia Neurological Society (past president), the Philadelphia Psychiatric Society, the American Neurological Association, and the College of Physicians of Philadelphia.

During the World War Dr. McIver was commissioned a lieutenant in the U. S. Navy in 1917, serving as neuropsychiatrist at the U. S. Naval Hospital, League Island, until June, 1919.

In 1916 Dr. McIver was married to Regina McManus, who died Mar. 22, 1932. On Sept. 16, 1939, he was married to Helen Duffy, R.N., who survives.

ADELBERT BOYD MILLER, Erie; University of Pittsburgh School of Medicine, 1905; aged 59; died Sept. 11. Dr. Miller was born in Indiana County, Mar. 19, 1881, a son of Henry S. and Mary A. Miller. He received his preliminary education in the local public schools. His internship was served at the Allegheny General Hospital, Pittsburgh.

Dr. Miller pursued graduate studies at the New York Postgraduate School in 1914, the Mayo Clinic in 1915, and the Massachusetts General and Boston Hospitals in 1933. He began the practice of medicine at North Girard in 1906, remaining there until 1921, when he moved to Erie. He specialized in surgery. Dr. Miller was on the staff of the Hamot Hospital, Erie, of which he was president at the time of his death. He was a member of his county (president, 1939) and state medical societies and a Fellow of the A. M. A. During the World War Dr. Miller was in active service for 20 months, serving in France for 14 months. He was a surgeon with the Allegheny General Hospital unit, stationed in a base hospital at Bourbonne les Bains. He was a pioneer aviator in Erie County, owning and operating his own plane.

Dr. Miller was married to Jane K. Tannehill in 1904. His wife, a daughter, and 2 sons, one of whom is A. Boyd Miller, M.D., of Pittsburgh, survive.

MRS. NELLIE A. MOYLAN, Overbrook, widow of Peter F. Moylan, M.D., of Philadelphia, died Sept. 19 after several weeks' illness. A daughter and a son survive.

EDWARD J. MURPHY, Philadelphia; Jefferson Medical College of Philadelphia, 1906; aged 56; died Sept. 21. Dr. Murphy was born in Philadelphia, Dec. 16, 1883, a son of Edward and Anne (Madden) Murphy. His early education was obtained at St. Anne's Parochial and the Catholic High schools, Philadelphia. His internship was served at St. Mary's Hospital, Philadelphia, which was followed by a residency in that institution. Dr. Murphy was on the staffs of St. Mary's Hospital (former chief of staff, and head of the department of otolaryngology at the time of his death), the German-town, and the Jewish Hospitals in Philadelphia. He was also head of the medical department of Sears Roebuck & Company's eastern seaboard stores. He was a member of his county and state medical societies and a Fellow of the A. M. A. Dr. Murphy was married to Anne Madden in 1914, who is deceased. Two daughters and 4 sons survive.

MRS. HELEN MACGOWAN PAXSON, Philadelphia, wife of Newlin Fell Paxson, M.D., died in the Bryn Mawr

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Hospital, Oct. 5. Her husband, parents, and a sister survive.

ANSON JAMES SINGER, East Stroudsburg; New York University Medical College, 1883; aged 82; died July 29. Dr. Singer was a member of his county (past president) and state medical societies and the A. M. A.; president of the board of trustees of the State Teachers' College; one time mayor; formerly on the staff of the General Hospital of Monroe County. Dr. Singer was retired.

ALBERT MONROE SITTLER, Bowmanstown (Carbon County); Jefferson Medical College of Philadelphia, 1886; aged 76; died in the Palmerton Hospital of pneumonia, Oct. 2. Dr. Sittler was born at West Penn, Schuylkill County, July 12, 1864, a son of Levi and Jane (Lutz) Sittler. He received his early education in the West Penn schools, and taught school in that township for 3 years. He received his premedical course at Kutztown Normal School and during his vacations tutored under Isaac Kistler, M.D. Dr. Sittler practiced medicine at Ashfield for 6½ years, and the remainder of his 54 years as a physician were spent at Bowmanstown. He was a member of his county and state medical societies and the A. M. A.

Dr. Sittler was married to Sarah Jane Zehner in 1887. His widow and a daughter survive.

WALLACE RAY SWARTZWELDER, York; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1927; aged 40; died of a self-inflicted gunshot wound, Sept. 3. Dr. Swartzwelder was born at Needmore, May 10, 1900, a son of James Sherman Swartzwelder, M.D., and Rosalie Sipe Swartzwelder. His early education was obtained in the Los Angeles, Calif., public schools. He was graduated from Mercersburg Academy in 1919, following which he received his premedical course at the University of Pennsylvania. Dr. Swartzwelder, who was a pediatrician, was on the staffs of the Harriet Lane and the York Hospitals. At the time of his death he was school physician for the York Collegiate County Institute. He was a member of his county and state medical societies and the A. M. A. His mother and a brother survive.

MRS. CATHARINE WILLIAMS, aged 40, wife of Philip F. Williams, M.D., of Philadelphia, was instantly killed, Sept. 25, when her automobile left the highway and crashed into a house at Sea Isle City, N. J. Besides her husband she is survived by 3 children.

HANS ZINSSER, of Boston, distinguished as a physician, author, and scientist, died in New York, Sept. 3, of leukemia, aged 61. He was professor of bacteriology and immunology at the Harvard Medical School from 1923 until the time of his death.

Miscellaneous

THE PHILADELPHIA CLINICAL ASSOCIATION held its annual dinner at Degenhart's, Oct. 24.

DR. AND MRS. THOMAS S. DUNNING, of Philadelphia, observed their sixty-eighth wedding anniversary, Oct. 8. Dr. Dunning is 91 and Mrs. Dunning is 90.

THE CELEBRATION of the seventy-fifth anniversary of the founding of the Jewish Hospital of Philadelphia took place Sept. 23, at 7 p.m., at the Bellevue-Stratford Hotel.

THE JEWISH HOSPITAL EX-RESIDENTS' SOCIETY held an Alumni Day, Oct. 18, at the Jewish Hospital, Philadelphia. There were demonstrations from 9 to 10 a.m., a round-table discussion from 10 to 12, and following luncheon papers were read from 2 to 4 p.m.

ERWIN D. ZEMAN, M.D., the new pathologist at St. Vincent's Hospital, Erie, is from the Middle West. His medical study was done at Iowa and his graduate work in Chicago, more recently at St. Luke's Hospital in that city.

PERCY S. PELOUZE, M.D., of Philadelphia, read a paper on "Gonococcal Infections and Sulfonamide Compounds" at the fall meeting of the Iowa and Illinois Central District Medical Association, held in Moline, Ill., Sept. 18.

THE DOCTORS' HOSPITAL of Philadelphia, owned and operated by the Doctors' Hospital Corporation, Inc., was opened for patients on Sept. 23. This reconstructed hospital was formerly the Orthopedic Hospital at 17th and Summer Streets.

DRS. CHEVALIER JACKSON AND CHEVALIER L. JACKSON, of Philadelphia, read a paper on "Cancer of the Larynx—Its Increasing Incidence" at the annual meeting of the American Academy of Ophthalmology and Otolaryngology, held in Cleveland, Ohio, Oct. 6 to 10.

THOMAS FITZ-HUGH, JR., M.D., of Philadelphia, read a paper on "Interrelationship of Cholelithiasis and Coronary Artery Disease" at the annual clinical conference of the Kansas City Southwest Clinical Society, held at Kansas City, Sept. 30 to Oct. 3.

THE ANNUAL MERCY HOSPITAL DAY CELEBRATION was held in Pittsburgh on Sept. 26. Esmond R. Long, M.D., pathologist and director of Phipps Institute, Philadelphia, gave an address at 2 p.m. on "The Diagnosis of Chronic Diseases of the Chest in the Light of Their Pathologic Anatomy."

THE MEDICAL MEN of Old York Road on Sept. 25 organized The Old York Road Branch of the Montgomery County Medical Society with the following officers:

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President, Elwood T. Quinn, M.D.; vice-president, Harold B. Shaw, M.D.; secretary-treasurer, M. Luther Kauffman, M.D.; chairman of program committee, John Eiman.

BASIL C. MACLEAN, M.D., medical director of the Strong Memorial Hospital, Rochester, N. Y., was chosen president-elect of the American Hospital Association at the annual meeting held in Boston, Mass., in September, 1940. Benjamin W. Black, M.D., medical director of Alameda County Hospitals, Oakland, Calif., was installed as president.

IN THE SEPTEMBER, 1940, number of *Pennsylvania's Health* is a contribution, "The Practitioner of Medicine in Private Practice and the State Health Department," by Charles H. Henninger, M.D., of Pittsburgh, past president of The Medical Society of the State of Pennsylvania. All practitioners of medicine in this state receive a copy of *Pennsylvania's Health* each month through the mail.

A "SYMPOSIUM ON PARTICIPATION IN THE PUBLIC HEALTH PROGRAM" was conducted at the annual meeting of the New York State Medical Society, held in New York City on May 8. The following papers were read: "Public Health Personnel," "The Place of the Medical Profession in the Public Health Program," "The Citizen," and "The School Physician in the Public Health Program." One speaker stated that "the school physician is no longer a medical inspector or a defect finder, but is a medical adviser." This very excellent symposium appears in the *New York State Journal of Medicine*, Oct. 15 issue.

THE FOLLOWING OFFICERS were elected by the Homeopathic Medical Society of Pennsylvania at their seventy-fifth annual meeting held in Hershey in September: J. Sewell Stewart, M.D., of Pittsburgh, president; E. Rowland Snader, Jr., M.D., Philadelphia, president-elect; D. Kepner Lessig, M.D., Reading, vice-president; William A. Weaver, Jr., M.D., Philadelphia, secretary; John R. Glassburn, M.D., Wilkensburg, treasurer; Edward A. Steinhilber, M.D., Philadelphia, necrologist; E. P. Cuthbert, M.D., Titusville, censor; Drs. I. L. Moyer, Columbia, Edward G. Douds, Beaver Falls, and Joseph F. V. Clay, Philadelphia, trustees.

THE NINETY-FIRST ANNUAL SESSION of the Woman's Medical College of Pennsylvania opened on Sept. 18. Catharine Macfarlane, M.D., interim dean, announced minor faculty changes and reported an enrollment of 115 students, including 41 in the first-year class.

Chevalier Jackson, M.D., president of the college, introduced the newly-appointed acting dean, Margaret D. Craighill, M.D., a graduate of Johns Hopkins University Medical School. Dr. Craighill greeted the corporators, faculty, and students and declared her intention to maintain the high standards set by her predecessor, Martha Tracy, M.D.

An interesting address on "The Colonial Hospital" was delivered by Francis R. Packard, M.D., after which Mrs. James Starr announced the awarding of 16 scholarships.

THE ONE HUNDRED AND SIXTEENTH ANNUAL SESSION of the Jefferson Medical College of Philadelphia was inaugurated Sept. 18. Mr. Robert P. Hooper, president of the Board of Trustees, presided. The introductory lecture was delivered by Hobart A. Reimann, M.D., Magee professor of practice of medicine and clinical medicine, on "Education of the Medical Student."

The total enrollment is 513. Of this number, 147 are new students, 133 admissions to the first-year class, and 14 admissions to the third-year class. The members of the first-year class were prepared for medical study in 75 different institutions, all having completed 4 years of college work, and received a bachelor's degree before

being admitted to the medical course. Geographically, 29 states, insular possessions, and foreign countries are represented.

THE COURSE for civilian physicians on "Medical Preparedness in the Present National Emergency" being conducted by the Philadelphia County Medical Society at the Society Building, Twenty-first and Spruce Streets, included the following program:

Oct. 17, "Recent Advances in Therapeutics as Related to War Surgery." By Isidor S. Ravdin, M.D.

Oct. 24, "Tissue Reaction to Missiles of War—Ballistics." By James B. Mason, M.D. "The Surgery of War as Contrasted with Industrial Surgery." By William Bates, M.D.

Oct. 31, "Maxillofacial and Reconstructive Surgery in War." By Robert H. Ivy, M.D., D.D.S.

Nov. 7, "Transfusion of Blood and Hematologic Substitutes in Advanced Medical Installations in War." By Max M. Strumia, M.D.

THE FIFTY-FOURTH ANNUAL DINNER of the Association of Ex-Resident and Resident Physicians of the Philadelphia General Hospital will be held on Tuesday, Dec. 3, at 7 p.m., at the Midday Club, Fidelity-Philadelphia Building, 123 South Broad Street (S. E. corner Broad and Sansom Streets.)

Major General Charles R. Reynolds, retired, will be the guest of honor. General Reynolds will be introduced by John J. Shaw, M.D., Secretary of Health of the Commonwealth of Pennsylvania. Guests of the association will be Hubley R. Owen, M.D., Director of Public Health of Philadelphia; William G. Turnbull, M.D., superintendent of the Philadelphia General Hospital; and David M. McKell, M.D., president of the Blockley Medical Society. Ruth Hartley Weaver, M.D., who is president of the association, will preside and act as toastmaster.

Ex-residents who do not receive notices of the annual dinner are requested to send their correct addresses to the secretary, George Wilson, M.D., 133 South 36th Street, Philadelphia, Pa.

THE MEDICAL ALUMNI ASSOCIATION of TEMPLE UNIVERSITY, on alumni night, Wednesday, Oct. 2, during the ninetieth annual convention of The Medical Society of the State of Pennsylvania, held in Philadelphia, gave a testimonial dinner to Frank C. Hammond, M.D., and Jesse O. Arnold, M.D., at the Union League, upon their retirement from active service on the faculty. There were 270 present.

William N. Parkinson, M.D., dean, and president of the Medical Alumni Association, presided. Greetings were extended by President Charles E. Beury, Temple University; Charles H. Henninger, M.D., retiring president, and Francis F. Borzell, M.D., president of the State Society; and Edward L. Bortz, M.D., president of the Philadelphia County Medical Society. Addresses were made by Wilmer Krusen, M.D., and W. Wayne Babcock, M.D., with responses by Drs. Hammond and Arnold.

Dr. Hammond has been connected with Temple University 37 years, and was dean of the School of Medicine from 1910 to 1929. He retires as emeritus professor of gynecology and dean emeritus, retaining, however, the office of chairman of the medical faculty. Dr. Hammond is also editor of THE PENNSYLVANIA MEDICAL JOURNAL.

Dr. Arnold has been connected with Temple University for 36 years. He retires as emeritus professor of obstetrics and remains as senior obstetrical consultant. He is a Fellow of the American College of Surgeons.

Thaddeus L. Montgomery, M.D., will take over the 2 departments as "professor of obstetrics and gynecology" and "head of the department of obstetrics and gynecology." Dr. Montgomery was on the obstetrical staff at the Jefferson Medical College of Philadelphia from 1925 to 1940.

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¹Sevringhaus, E. L., and Evans, J. S.: *Am. J. M. Sc.* 178:638, Nov. 1929.

²Novak, Emil: *Surg. Gynec. & Obst.* 70:124, Jan. 1940.

³Schneider, P. F.: *Am. J. Obst. & Gyn.* 37:861, May 1939.

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WARTIME EPIDEMICS

The hundred-bed research hospital that the American Red Cross and Harvard University have projected for Great Britain, for the purpose of studying communicable diseases in war, ought to become an institution of primary social and scientific importance. If there is any doubt on that score, we have only to recall that in 1918 more lives were lost in the European pandemic of influenza that followed the war than on the battlefield.

Though in the present conflict armies have not lived in trenches and dugouts, Britain's force of 2 million presents medical problems of no small order. A communicable disease can spread like a prairie fire in crowded barracks and tents. Even more serious are the dangers to which whole towns are exposed when the sirens howl and thousands rush for air-shelters, there to huddle for hours until the "all clear" signal is given. Though some of the underground refuges are provided with drainage, the conditions are worse than any that prevail in the most discreditable slums. Undernourishment, which saps the strength even of sound bodies, increases the probability of contagion. Add to the picture thousands of children who must be packed in trains and hurried to some haven in the country or to some port for embarkation to Canada and the United States, and it is easy to see why Harvard's physicians, who are to man the hospital, consider it important to discover how epidemics start and how they can be avoided.

Apart from its broad humanitarian appeal, this project—and we call it a project because the money to make it a reality has still to be raised—has direct practical value to us. We are about to raise the largest peacetime standing army in our history. The medical risks that the British have run in their haste to arm we should avoid. And we can avoid them if we heed the work to be done by these American physicians on British soil. It so happens that the first few months of recruitment are medically the hardest, this because countrymen who have never been exposed to the infections of large cities must mingle with city men to whom a cold is a disagreeable episode, measles a disease of childhood, and influenza something that can be shaken off by remaining in bed for a few days. A life lost in fighting bacteria or viruses counts as heavily as a life lost on the battlefield. How infectious diseases become epidemic is known only in the large. More light is needed, and it is light that this project is intended to shed.—Editorial, *New York Times*, Sept. 1, 1940.

PNEUMONIA CAUSED BY ANKLE INJURY

In an action on the double indemnity provisions of 2 life policies, a certified copy of the death certificate, offered in evidence reciting that the principal cause of insured's death was septic bronchial pneumonia; that another contributing cause was diffuse cellulitis; that the death was due to accident in alighting from insured's own automobile, and that the nature of the injury was "injured ankle," was held to be prima facie evidence of the facts stated in the certificate under Missouri statutes.

There was medical evidence, based on the witness' treatment of the case and his professional knowledge, that the septic bronchial pneumonia which developed subsequent to the injury was directly traceable to the accidental injury and caused thereby. This testimony

was corroborated to some extent by a physician who assisted in a postmortem examination of insured's body, giving his opinion that the cause of death was pneumonia following an infection of the leg. On this evidence the question as to whether the pneumonia was directly traceable to the ankle injury was held for the jury, which found for plaintiff.

"True," the court said, "the testimony produced by the defendant was to the effect that the insured died of 'heart failure.' Of course, in a general way, every death may be said to be caused by heart failure, but failure of the heart can scarcely be said to be a disease, rather a functional lapse. The inquiry at once arises as to what caused the heart to fail. But if that raised an issue of fact, the jury determined it in favor of the plaintiff and we cannot say that their verdict is not sustained by substantial evidence." *Guardian Life Ins. Co. vs. Kissner*, 8th C.C.A., 11 F. 2d 532.—*Medical Record*, Aug. 21, 1940.

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BOOK REVIEWS

THE COMPLETE GUIDE TO BUST CULTURE.

By A. F. NIEMOELLER, A.B., M.A., B.S. Cloth, 160 pages. New York: Harvest House, 1939.

This work, while not written by a physician, is comprehensive, brief, and to the point. It deals with the anatomy and physiology of the bust including those factors which influence the growth and development of the female breasts. Exercise, diet, and posture are all considered briefly. Treatment by diathermy, massage, mechanical devices, creams and lotions, hydrotherapy, and plastic surgery are covered in short but accurate discussions. Especially to be commended is the chapter on brassieres, which discusses the value and harm caused by these mechanical devices. Illustrations are shown of the right and wrong types of brassieres.

In conclusion, the author gives sound advice to the lay women on the care of lumps in the breast, deformities and diseases of the breast.

This book is well worth the price for the instruction of the adolescent female as well as the young adult woman and should be used as a part of the sex hygiene instruction in women's colleges and institutions.

SHOCK. Blood Studies as a Guide to Therapy.

By JOHN SCUDDER, M.D., Med. Sc.D., F.A.C.S., from the Surgical Pathology Laboratory of the College of Physicians and Surgeons, Columbia University, and the Department of Surgery, Presbyterian Hospital, New York City. 55 illustrations, 5 plates. Philadelphia: J. B. Lippincott Company, 1940. Price, \$5.50.

Dr. Scudder's book on "Shock" is a much needed volume for surgeons, general practitioners, and experimental investigators. He reviewed the theories of shock and the changing concepts of the causes and treatment. He made a historical summary and has a complete bibliography. In this volume he discusses the relationship of the various metabolites to shock and has an excellent chapter on the effect of potassium, and in turn, its effect upon the heart.

The volume is well illustrated and has many important case histories. A great deal of recent work by many investigators, including the author, is given. Dr. Scudder's experience with the management and treatment of shock should prove of great practical value. The chapter on "Advances in Treatment of Shock" and the suggestions for a differential diagnosis of various types of shock should also prove of great value to all students interested in the subject. The book is excellently arranged so that notes on personal cases treated may be written up and in this way the volume may be used, more or less, as a personal text. The author should be congratulated on his arrangement of the material and excellent contribution.

INJURIES OF THE SKULL, BRAIN, AND SPINAL CORD.

Neuropsychiatric, Surgical, and Medicolegal Aspects. By 22 contributors. Edited by SAMUEL BROCK, M.D., New York University. A Williams Wood book. Baltimore: The Williams and Wilkins Company, 1940. Price, \$7.00.

Trauma to the cerebrospinal axis and its protective coverings has increased in frequency in direct proportion to the steady progress that man has made in his conquest of time and space, and in direct proportion to his insatiable drive to destroy his fellow creatures. This volume represents in symposium form a very complete exposition of the pathology, diagnosis, and treatment of the complications of brain and spinal injuries. The

authors are, without exception, leaders in the fields of neurology, psychiatry, and neurosurgery.

Fracture of the skull with its sequelae is discussed in detail. A well-written chapter by Dr. C. P. Symonds, of Guy's Hospital, London, explains the confused subject of cerebral concussion and contusion. Gunshot wounds of the head, injury to the cranial nerves, extradural hematoma, brain abscess, and cerebral birth injuries are all capably discussed. Of particular interest are the sections devoted to the posttraumatic neuroses, post-traumatic convulsive states, and malingering, for this is a subject which, through its legal implications, is of importance to every physician. The special chapter on the medicolegal aspects of cerebrospinal trauma is included in the volume and should be required reading for every medical graduate. Dr. I. S. Wechsler contributes an interesting chapter on the relationship of brain injury to other organic diseases of the brain. The chapter on the roentgenology of skull fractures and on the pathology of cord injuries is abundantly illustrated.

ILLUSTRATIONS OF SURGICAL TREATMENT.

Instruments and Appliances. By ERIC L. FARQUHARSON, M.D., F.R.C.S.E., tutor in clinical surgery, Royal Infirmary of Edinburgh. With a foreword by Sir John Fraser, M.C., M.D., F.R.C.S.E., regius professor of clinical surgery, University of Edinburgh. A William Wood book. Baltimore: The Williams and Wilkins Company, 1940. Price, \$6.50.

The title is misleading. "Illustrations of the Surgical Treatment of Fractures and Some of the Common Orthopedic Conditions" would be a larger but more correct title. In the average textbook on surgery, fractures and orthopedics play a minor rôle. The subject matter is so condensed that it offers little help to the student or the "doctor of all work" who is studying up for a special case.

This work deals with a very special and limited field of surgery. It is the work of a single individual—not a rehash of many texts. It is presented in an original manner—illustrations that speak more plainly than words. The specialist will find it worth while reading and the general practitioner will consult it often for his fracture cases.

The last 100 pages consist of illustrations of instruments and appliances in use in general surgery. The first reaction to this part of the book is—why pay \$6.50 for a book of 217 pages plus 100 pages taken from the catalogue of some commercial instrument house? The medical student will doubtless find these illustrations with the descriptive notes as to their uses helpful.

MANUAL OF DERMATOLOGY.

By CARROLL S. WRIGHT, B.S., M.D., professor of dermatology and syphilology, Temple University School of Medicine; associate professor of dermatology and syphilology, Graduate School of Medicine, University of Pennsylvania. 138 illustrations, 384 pages. Philadelphia: The Blakiston Company, 1940. Price, \$4.00.

Though this manual has been written and prepared chiefly for medical students and general practitioners of medicine, the specialist as well as those interested in dermatology would do well to include it in their libraries as a handy reference book.

The author has placed a special emphasis on the numerous dermatoses with which the general practitioner comes in contact and only briefly mentions the rare or less common conditions.

This is a most interesting book, the text has been written in a pleasing style, and the subject matter is well arranged and interspersed with quite a profusion of drawings and illustrations.

It is a practical book for the physician or medical student and, knowing the author's reputation as a dermatologist and teacher, your reviewer most heartily recommends it as a handy reference book and an excellent addition to any medical library.

TRAPPING THE COMMON COLD. By GEORGE S. FOSTER, M.D. 125 pages. New York: Fleming H. Revell Company, 1940. Price, \$1.25.

This short book is written for the layman on how to prevent the common cold. According to the author, colds may be prevented by drinking water copiously, exercise, diet, posture, proper environment, humidity, and clothes. There is no scientific proof of the main thesis; namely, that the common cold can be obviated in this manner. However, it has the advantage of being written in a concise form with interpretations in relation to the common cold.

THE MANAGEMENT OF OBSTETRIC DIFFICULTIES. By PAUL TITUS, M.D., obstetrician and gynecologist to the St. Margaret Memorial Hospital, Pittsburgh; secretary of the American Board of Obstetrics and Gynecology. Second edition. St. Louis: The C. V. Mosby Company, 1940. Price, \$10.00.

In 42 splendidly compiled chapters, with a text of 945 pages pictorially illustrated with 368 figures, Titus outlines the management of obstetric difficulties in an attractive way in this, the second edition of his well-known work.

The book not only enumerates the special difficulties encountered in obstetric practice but it covers in addition numerous other aspects of the science and art of the specialty.

The author, both a practitioner of obstetrics and gynecology, has with many of his confreres recognized the intimate kinship of obstetrics and gynecology and has long advocated a closer unity of the 2 departments of medicine. Because of this attitude, as well as his interest in gynecology, he has incorporated in his work considerable material of a gynecologic nature.

In the present volume there is very little to criticize and a great deal to praise. It will prove valuable to all physicians interested in either obstetrics or gynecology or both. The few minor deficiencies here and there will no doubt become apparent to the author and be deleted in future revisions of the work.

The fact that this, the second edition, is presented within the short span of 3 years indicates the popularity the work rightfully enjoys.

DEMONSTRATIONS OF PHYSICAL SIGNS IN CLINICAL SURGERY. By HAMILTON BAILEY, F.R.C.S. (Eng.), surgeon, Royal Northern Hospital, London; surgeon and urologist, Essex County Council; external examiner in surgery, University of Bristol. Seventh edition, revised. Baltimore: William Wood, The Williams and Wilkins Company, 1940. Price, \$6.50.

When it is noted that a volume on physical signs in clinical surgery has had 7 editions, representing 10 reprints within 13 years, very little need be added to the prestige that such a volume must have. Hamilton Bailey, surgeon to the Royal Northern Hospital, London, and other institutions, has presented to the medical profession perhaps the finest volume on demonstrated physical signs in clinical surgery.

To book lovers it is a veritable oasis containing 322 pages of most pleasing, readable material and replete with 377 illustrations, many in color. In looking through this volume one simply must marvel at the clearness

and conciseness of the material presented and need merely look at the splendid clear-cut illustrations to learn virtually all that is necessary. One is then, perforce, intrigued into holding on to the volume and absorbing the reading matter. To read this book is a delightful postgraduate course. To own the book is to possess a reference source that is literally unduplicated. It is warmly recommended to everyone interested in physical signs.

AN INTRODUCTION TO GASTRO-ENTEROLOGY. Being the third edition of *The Mechanics of the Digestive Tract*. By WALTER C. ALVAREZ, professor of medicine, University of Minnesota, The Mayo Foundation, and a senior consultant in the Division of Medicine, the Mayo Clinic. 186 illustrations. New York: Paul B. Hoeber, Inc., 1939. Price, \$10.00.

The new edition of this important treatise, completely rewritten and broadened in scope, is not only a beautiful volume but its contents are both fascinating and satisfying to any searcher after truth. The book is and will certainly remain a unique and invaluable medical classic.

The author, Dr. Alvarez, is a distinguished and outstanding figure in American medicine. For over 30 very active and productive years he has centered his major professional interest upon the problems of gastroenterology. The reviewer is aware of no investigator or specialist in this field who has more generously or altruistically aided his fellow practitioners to gain a better or more comprehensive understanding of the digestive disorders.

The book is so charmingly written by a deeply cultured scholar that the reader discovers he is being painlessly introduced to a renewed interest in and deep study of the anatomy, and especially of the physiology of the entire digestive tract. There is not an uninteresting chapter in the volume, and a careful reading of its pages will tend to make any reader grateful to its author.

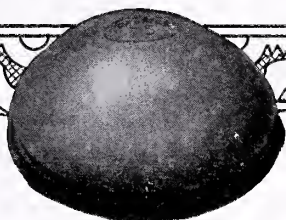
Those fortunate possessors of the first and second editions of this inspired and inspiring work will not be content to be long without the present volume. To those less fortunate physicians who are not acquainted with early editions of the present work, the reviewer can heartily recommend it.

In 1930 Dr. Alvarez placed the members of the medical profession deeply in his debt by publishing a modest and most illuminating and helpful monograph entitled *Nervous Indigestion* (Paul B. Hoeber, Inc.). To those physicians who desire a most helpful graduate course in instruction concerning digestive disorders available in their own offices, the reviewer ventures to suggest that the volume on *The Mechanics of the Digestive Tract* and the companion treatise on *Nervous Indigestion* will prove an ideal investment.

CARDIOVASCULAR-RENAL DISEASE. A Clinicopathologic Correlation Study Emphasizing the Importance of Ophthalmoscopy. By LAWRENCE W. SMITH, M.D., professor of pathology, Temple University School of Medicine; EDWARD WEISS, M.D., professor of clinical medicine, Temple University; WALTER I. LILLIE, M.D., professor of ophthalmology, Temple University; FRANK W. KONZELMANN, M.D., professor of clinical pathology, Temple University; and EDWIN S. GAULT, M.D., associate professor of pathology, Temple University. 227 pages. New York and London: D. Appleton-Century Co., Inc., 1940. Price, \$4.50.

This volume is based upon material awarded the Frank Billings Gold Medal at the scientific exhibit of the annual meeting of the American Medical Association in San Francisco, June, 1938. The importance of cardiovascular-renal disease to the physician is best

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emphasized by a statistical statement made by the authors. "If present conditions of mortality continue, 45 out of an initial group of 100 children born today in the United States will eventually die from some disease of the heart, kidneys, arteries, or cerebral hemorrhage. This is 5 times the number that will die from cancer, and 10 times the eventual number of deaths from tuberculosis."

The pressing problem of hypertension is discussed from the point of view of its etiology. The experiments of Goldblatt and his co-workers are referred to, and the authors lean strongly to the theory that a humoral substance elaborated by the ischemic kidney is the precipitating cause of hypertension. They illustrate this theory of ischemia in their subsequent illuminating clinical and pathologic discussion of hyperpiesia, senile atherosclerosis, nephritis, nephrosis, eclampsia, and pyelonephritis. Each disease entity is illustrated by case reports, and also by superb photographs of the fundi and of the gross and microscopic specimens of organs removed from these cases at necropsy. The photographs constitute in themselves a splendid refresher course in cardiovascular-renal disease.

Throughout the work one is impressed by the value of fundal examination as being a primary clue to the general status of the patient's vascular apparatus. The authors emphasize the correlative pathology of the renal and retinal vasculature. The reviewer unreservedly recommends this volume to physicians as a clear, concentrated, and graphic exposition of our present knowledge of cardiovascular-renal disease.

TEN YEARS IN THE CONGO. By W. E. DAVIS, M.D. New York: Reynal & Hitchcock, Inc., 1940. Price, \$2.50.

This is a fascinating account of the author's 10 years of medical practice in the interior of Africa, where he

was connected with a church mission. His descriptions of personal contacts with the natives give one a new conception of their personalities and characteristics. Bound by traditions centuries old, these people are guided and controlled in all their actions by taboos.

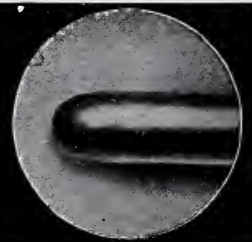
Chapters are devoted to birth, marriage, death, witchcraft, and other Congo customs, as well as to the European planters, traders, and administrators who live there. The author succeeds in making one understand the strange spell that Africa exerts in spite of the filthy and unhealthy environment. This volume affords interesting entertainment.

ARGYRIA. The Pharmacology of Silver. By WILLIAM R. HILL, M.D., instructor in dermatology and syphilology, University of Pennsylvania School of Medicine, and DONALD M. PILLSBURY, M.A., M.D., associate professor of dermatology and syphilology, University of Pennsylvania. Baltimore: The Williams and Wilkins Company, 1939. 172 pages. Price, \$2.50.

In this brief volume the authors have incorporated material from more than 600 sources regarding the problem of argyria and the pharmacology of silver. Following a short history of the use of silver salts in medicine, the authors give a detailed discussion of the absorption of these salts by various modes of administration, their transportation and excretion. Deposition of silver in various tissues and the effects of silver administration upon living tissues are discussed in detail. The clinical picture, differential diagnosis, and treatment of generalized argyria are then presented, along with a complete tabular analysis of the pertinent facts concerning each of the 357 recorded cases of the disease.

The authors believe that general therapeutic argyria is on the increase, due especially to the recent increase

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*Medical Record, August 21, 1940



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in the use of colloidal silver salts and silver arsphenamine. Therapeutic and industrial, localized and generalized argyrosis, and industrial argyria are discussed fully. The monograph is excellently arranged and coherently written. It should appeal strongly not only to the chemist and pharmacologist but also to the internist.

Industrialists who deal in the manufacture and sale of silver or its salts will find here a volume worthy of their attention. The book is a prerequisite for subsequent investigators interested in argyria.

THE NEW INTERNATIONAL CLINICS. Edited by GEORGE MORRIS PIERSON, M.D., professor of medicine, Graduate School of Medicine, University of Pennsylvania, Philadelphia, Pa. New Series 3. Philadelphia, Montreal, New York: J. B. Lippincott Company, 1940.

One who has upon him the exactions of an active practice has but limited time to assimilate the advances in diagnosis and in modern therapy. The clinic affords advantage to sift the wheat from the chaff of currently advocated practices and methods. The recent volumes of International Clinics are outstanding in respect to the timeliness of their contents.

Therapeutic uses for the newer forms of chemotherapy in various infections are evaluated admirably by various contributors.

Series 3 inaugurates an added feature in that a group of clinics from some outstanding American hospital are consolidated. The first volume reports a series of 12 clinics from the Hospital of the University of Pennsylvania. An article written by A. Cantarow, M.D., on vitamins is excellent. Herein Dr. Cantarow condenses a bewildering mass of scientific fact into concise, simple, and understandable language. Its subheadings render it readily accessible for reference. This article constitutes a monograph which may well be used for frequent reference by the busy practitioner.

FETAL AND NEONATAL DEATH. A survey of the incidence, etiology, and anatomic manifestations of the conditions producing death of the fetus in utero and the infant in the early days of life. By EDITH L. POTTER, M.D., Ph.D., instructor in the Department of Obstetrics and Gynecology, University of Chicago, pathologist at the Chicago Lying-in Hospital; and FRED L. ADAIR, M.D., professor and chairman of the Department of Obstetrics and Gynecology, University of Chicago, and the Chicago Lying-in Hospital. Chicago: The University of Chicago Press, 1940. Price, \$1.50.

This readable work discusses (1) births, stillbirths, and infant mortality, (2) the normal fetus and infant, (3) postmortem examination, (4) survey of the principal causes of fetal and neonatal death, and (5) special pathology.

The obstetrician and pediatrician will find this interesting and instructive reading. There must be many physicians serving on infant mortality committees who will welcome this answer to their many questions.

TOMORROW'S CHILDREN. Proceedings of the Southern Conference on Tomorrow's Children held Nov. 9, 10, and 11, 1939, at Atlanta, Ga. Birth Control Federation of America, 501 Madison Avenue, New York City.

This book, relating chiefly to birth control, will be of value to everyone interested in this particular subject. The proceedings comprise 7 papers and 10 panel discussions on various phases of the child question in the South. The data presented here are both interesting and enlightening, especially the discussions on the Swedish population-planning problem.

STUDIES IN THE AVITAMINOSES



This page is the final of a series on vitamin deficiencies presented by the research division of The Upjohn Company because of the profession's widespread interest in the subject. A full color, two-page insert on the same subject appears in the December 7 issue of The Journal of the American Medical Association.

The Exacerbation of LATENT PELLAGRA by Acute Infections

Vitamin requirements are increased by many factors, especially by acute infectious disease. Field, commenting on this phenomenon, states that the onset of pellagra may coincide with pregnancy, organic gastrointestinal disease, severe and prolonged illnesses, and dietary restriction for therapeutic purposes. The patient whose tongue is shown developed this manifestation of pellagra during the course of lobar pneumonia. After nicotinic acid therapy was started she coughed up a cast of the esophagus which consisted of a grey membrane similar to that covering the tongue. The pellagrous symptoms responded promptly to treatment.

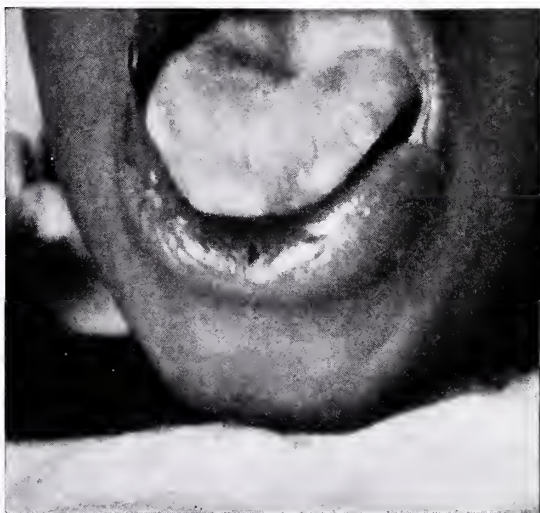


Illustration courtesy of Virgil P. W. Sydenstricker, M.D.,
University of Georgia Medical School, Augusta, Ga.



Illustration courtesy of Virgil P. W. Sydenstricker, M.D.,
University of Georgia Medical School, Augusta, Ga.

The Coexistence of Vitamin Deficiency States

Many authors have recently presented evidence that vitamin deficiency states often are multiple. Strauss has called attention to the fact that deficiency disease in man, unlike that experimentally produced in animals, is rarely limited to a single factor. The patient whose hands are shown had partaken of a markedly deficient diet for several months. As a result, scurvy and pellagra developed concurrently. The ecchymoses of the former and the dermatitis of the latter are clearly visible. Specific therapy together with dietary adjustment led to prompt remission of these signs.





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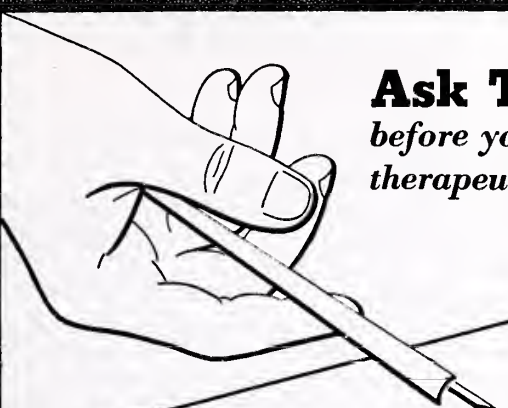
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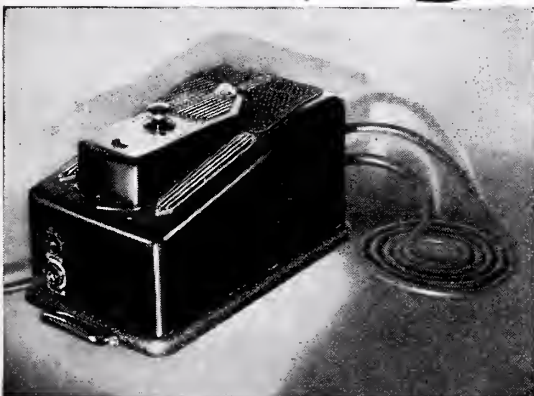
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CANNED FOODS IN THE MODERN PATTERN OF NUTRITION

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During recent years, several excellent texts have become available which present reliable guidance in diet planning (1, 2, 3). One important factor governing conformance with any diet pattern, of course, is the economic status of the individual, family, or group. A recent text presents a workable system in which rather full consideration has been given to this factor (1).

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In connection with this diet plan, desirable yearly food allotments for persons of various sex, age, or conditions of life are also listed in terms of these twelve food

groups. Thus, from information regarding the sex, age, and activities of the members of a family or group, one can compute the yearly amounts of the various foods which should be provided. From the sum of these yearly totals, the food allowances per week or month for the family or group can be estimated. The latitude in the choice of foods, within the twelve specified food groups, makes the diet pattern more adaptable to situations where the economic factor must be considered.

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REFERENCES

1. 1939. Food and Life; Yearbook of Agriculture, U. S. Dept. of Agriculture, U. S. Govt. Printing Office, Washington, D. C.
2. 1939. Accepted Foods and Their Nutritional Significance, Council on Foods of the American Medical Association, Chicago.
3. 1940. J. A. M. A. 114, 548.

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T. L. YUAN, Director,
National Library of Peiping,
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THE PHYSICAL STANDARDS UNDER SELECTIVE SERVICE

In the Medical Preparedness section of the *Journal of the A. M. A.* for Nov. 2 there appears an abstract of the standards which have been adopted to guide the physicians who will be associated with local selective service boards and medical advisory boards and also the specialists who will be associated with the induction boards. The manual is essentially the same for all of these groups. Every physician will find it informative to study carefully these standards, bearing in mind that the purpose is to select men capable of undergoing military training and not essentially an inventory throughout the nation of the health of men from age 21 to 35.

In the selective service of 1917 each of the young men who appeared before a local board was given a physical examination. Under the present system only those men will be physically examined who have been found suitable for training after exemption has been considered from the point of view of marriage, essential occupation, or some of the many other reasons which have been considered sufficient to exempt the young man from military service. The selective service organization has prepared 6 pamphlets in which the various aspects of the work of the selective service boards are discussed. Especially noteworthy is the excellent section on malingering in the pamphlet on physical standards, which will find application not only in the work of the selective service boards but no doubt in the practice of every physician who examines any number of persons for insurance, for industry, or for educational or other purposes.

As has been previously mentioned, a final examination, which is the one made by the induction board, will be necessary before any young man is sent for training to a camp or cantonment. That examination will be made by a group of specialists who will be given the necessary facilities and time for a study much more comprehensive than can be made by either the examiner for the local selective service board or the medical advisory board.

Especially noteworthy also are the new regulations regarding serologic examination, not duplicated, as far as we know, in any other country or by this country in any previous emergency. Special interest taken by the United States Public Health Service in this phase of health or disease is reflected in this procedure. Every young man who receives a physical examination by a physician associated with the selective service board will have a serologic test. If the test is positive, it is to be repeated. Apparently those who have syphilis with remedial manifestations—except those with cerebrospinal, cardiovascular, or visceral syphilis—will be placed in class 1A, which is the group considered to be qualified for general military service. Presumably the decision as to how much attention is to be given to the presence of syphilis will rest with the military authorities after induction into the service.



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Some Problems Associated with Surgery of the Biliary Tract

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Rochester, Minn.



BECAUSE the more unusual problems associated with surgery of the biliary tract are related so intimately to the physiology of the liver, it would seem advisable to list the physiologic processes in which the liver is concerned and in like manner the alteration of physiologic processes in hepatic disease.

Physiologic Processes in Which the Liver is Concerned

Carbohydrate Metabolism.—The liver is apparently the sole regulating mechanism for maintenance of the level of sugar in the blood.

Protein Metabolism.—The liver apparently is essential for the deamination of amino-acids, for the synthesis of urea, and for the destruction of uric acid in protein and purine metabolism.

Bile Metabolism.—Evidence seems to indicate that the liver is an organ of excretion for bile pigment and that the bile acids (taurine and cholic acid) are formed directly in the hepatic cell. Although the metabolism of cholesterol and lecithin is not thoroughly understood, there is some evidence to suggest that the former not formed in the liver but is eliminated by hepatic cells from the blood and that lecithin probably represents a waste product derived from the liver or from the body at large and acts in association with the bile salts as a remarkable emulsifying agent in the digestion and absorption of fats. One of the functions of the liver appears to be the conversion of indirect reacting bilirubin formed elsewhere in the body, to the van den Bergh reagent, to direct reacting bilirubin, in which form it is excreted in the bile.

Detoxication.—The liver apparently is essential for the detoxication of many poisons, including metallic poisons, phenol, chloroform, benzoic acid, and strychnine, and protects the body against micro-organisms.

Blood Protein.—Fibrinogen evidently is produced exclusively in the liver. It has been shown that there are definite, potent, hemoglobin-producing factors within the liver of man, and that the liver may figure prominently in maintaining a dynamic equilibrium between tissue protein and plasma protein.

Vitamins.—There has been some suggestion that the fat-soluble, and perhaps the water-soluble, vitamins will be utilized poorly, if at all, when bile does not enter the intestine. Recently accumulated evidence suggests that the defect in the mechanism of coagulation lies in the formation of prothrombin and that this in turn is dependent on adequate utilization of certain sterols which have been designated tentatively as "vitamin K." That there is probably a physiologic interrelation between vitamin K and prothrombin is not doubted.

From the surgical standpoint, the most important pathologic lesions producing changes of function in the liver are those which mechanically obstruct the common bile duct and produce jaundice. In a consideration of these extremely important physiologic processes in which the liver is concerned, it would not be surprising if marked alterations of the general metabolic processes would be noted when damage to the liver has occurred, and yet these processes of the liver are not greatly altered even when the liver has been damaged appreciably.

Alteration of Physiologic Processes in Hepatic Disease

Carbohydrate Metabolism.—(1) There may be an increased excretion of galactose in the occasional case with acute cellular damage. (2) Hypoglycemia may occur among patients who have extremely fatty, cirrhotic livers.

Protein Metabolism.—A low value for blood urea is seen occasionally. Studies on the partition of urinary nitrogen rarely show significant variations from normal. With the exception of changes in the level of plasma proteins, no sig-

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nificant alteration in protein metabolism has been observed. Hyperuricemia is occasionally seen in chloroform and benzoic acid poisoning.

Bile Metabolism.—The ability of the liver to concentrate bile acids in the bile varies inversely with the amount of hepatic damage present. If excretion of bilirubin is prevented by obstruction of the biliary ducts or by parenchymatous injury of the liver so that this pigment is unable to pass through the hepatic cells, it is reabsorbed by the lymph and blood in the form which gives the direct reaction to the van den Bergh reagent. The changes that occur in the quantity of blood cholesterol and cholesterol esters, as a result of hepatic damage, have been of little practical importance, and yet it has been noted that the quantity of cholesterol in the blood is reduced in progressive hepatic disease. In a similar manner the quantity of lecithin excreted in the bile may be reduced and in this manner diminish the emulsifying of fats which is essential to the proper digestion and absorption of this element of food.

Detoxication.—Chemical methods may fail to detect differences in the detoxication of various poisons, and yet it is a well-known fact that the degree of intoxication resulting from the administration of different drugs varies with the condition of the liver. On the inability of the damaged liver to conjugate benzoic acid with glycine to form hippuric acid has been based a valuable clinical test of hepatic function. Hepatectomized animals have been shown to have a markedly reduced immunity to phenol, phosphorus, strychnine, and many other drugs.

Blood Proteins.—Marked lowering of the level of fibrinogen in the blood plasma following injury to the liver has been demonstrated. Disturbances in the dynamic equilibrium between tissue protein and plasma protein may become manifest following hepatic damage by a reduction of the total protein and a reversal of the albumin-globulin ratio. A fall in the colloid osmotic pressure of the blood serum also may be noted. The hypochromic type of anemia which is seen occasionally associated with severe hepatic injury may be explained in some instances by a failure of the damaged liver to synthesize hemoglobin adequately from the hemoglobin-producing factors contained within it.

Vitamins.—The physiologic relationship that exists between prothrombin and vitamin K depends in large part on the presence of adequate quantities of bile in the intestine and on adequate administration of vitamin K. Administration of concentrates of vitamin K together with

bile salts to patients who have jaundice has been followed by an elevation in the quantitative level of prothrombin in the circulating blood and a reduction in the elevated prothrombin clotting time. In those patients who are able to partake of an adequate diet, the administration of bile salts alone will produce a similar result, whereas in those patients not taking food by mouth the addition of vitamin K is necessary before a reduction in the Quick prothrombin time is noted.

Hydrohepatosis (Cholangiectasia)

When the ducts of any secreting glands are obstructed, stasis, dilatation of the ducts, and parenchymatous changes follow, which are due evidently to circulatory disturbances and infection. The term "hydrohepatosis" has been applied to this condition when obstructive processes of the bile ducts occur. A more appropriate term is "cholangiectasia," which, because of its derivation, should have support by precedent in describing similar processes in the lung and kidney. V. S. Counseller and A. H. McIndoe have noted a remarkable difference in the various grades and types of hydrohepatosis. By means of a celloidin injection and corrosion method, these investigators found that, of the conditions producing severe hydrohepatosis, the most important are stones in the common bile duct, benign stricture, and neoplastic obstruction of the extrahepatic bile ducts. A functionless gallbladder may be associated with a rather marked degree of hydrohepatosis, for the process would then resemble that which follows cholecystectomy, as E. S. Judd and F. C. Mann have demonstrated.

Because of the severe parenchymatous damage which occurs in the liver in association with the process of hydrohepatosis, it is imperative that the obstruction to the main excretory ducts be relieved as rapidly as possible. This is especially true since persistence of the obstruction produces a vicious cycle: the greater the dilation of the biliary ducts, the more the encroachment on the nutrient blood supply to the liver cells with consequent parenchymatous damage; and the greater the parenchymatous damage, the greater will be the degree of hydrohepatosis.

Jaundice

That it is impossible to formulate a diagnostic method which will be without error in differentiating the many conditions associated with jaundice is well known. The problem frequently confronting the surgeon, however, is to make the decision for or against surgical intervention and it is of utmost importance, therefore, that he

be familiar with the essentials of differential diagnosis. Waltman Walters and A. M. Snell have shown that the first essential in considering the possible basis for jaundice is a complete clinical history in regard to 3 factors; namely, previous attacks and type of pain, surgical procedures, and dyspepsia, with emphasis placed on the chronologic relation of jaundice to each of these 3 factors. Much valuable evidence may be obtained from a complete physical examination and from the utilization of various well-known laboratory methods. To consider this problem further is beyond the scope of this paper. It is sufficient to emphasize the obvious fact that close co-operation between internist and surgeon is necessary if the patient is to receive the maximal benefit from the diagnostic and surgical standpoint and from the standpoint of preoperative and postoperative care.

Hemorrhagic Diathesis in Cases of Jaundice

Closely associated with the problem of jaundice has been the hemorrhagic diathesis, which until recently has proved not infrequently to be of serious proportions. Particularly in patients with obstructive jaundice due to occlusion of the common bile duct by a malignant lesion has the tendency to hemorrhage been marked. Such an unfortunate occurrence might have taken place not only at the time of operation but at any time during the first week or 10 days after operation. In 1938 H. R. Butt and A. M. Snell presented a preliminary report of the results of treatment of the hemorrhagic diathesis in cases of jaundice by the use of vitamin K and bile or bile salts. It was noted by these investigators that the administration of vitamin K together with bile or bile salts to patients who had jaundice had reduced elevated prothrombin time to within normal limits and in certain cases had probably prevented hemorrhage or had had a definite inhibitory effect on active bleeding. The administration of bile alone to an individual who was ingesting an adequate diet resulted in a shortening of the elevated prothrombin time, whereas the administration of vitamin K alone, when bile was absent from the intestinal tract, had little or no effect in decreasing the elevated prothrombin time. In the same year it was shown that administration of concentrates of vitamin K together with bile salts to patients who had jaundice was followed by an elevation in the quantitative level of prothrombin in the circulating blood as well as a reduction in the elevated prothrombin time.

Experience since the publication of these preliminary reports has added confirmatory evidence

to these early impressions. The value of vitamin K and bile or bile salts in the preparation of jaundiced patients for operation and as a postoperative therapeutic measure cannot be overstated. Refinements of technic, the development of synthetic products, and increased experience in the administration of the drugs have been achieved but the general principles of treatment remain the same. The actual use of vitamins K₁ and K₂ practically has been abandoned, as the synthetic products "2 methyl 1-4 naphthaquinone" and "2 methyl 4 amino naphthol hydrochloride" have proved to be more satisfactory in clinical use. Very small doses have been found to be effective more rapidly and the substance can be administered by mouth or by intravenous injection. The latter route has been found to be particularly advantageous, for in this manner the drug may be added to any of the more commonly used intravenous agents, such as saline or glucose solutions. When the drug is injected into the vein, it is not necessary to administer bile salts. If these substances are given by mouth, it is necessary to supplement the drug with bile or bile salts in order that it may be taken up into the blood stream. Few will doubt that the development of the clinical use of vitamin K and the other chemical substances so closely related physiologically has assisted remarkably in solving one of the most distressing problems in the surgical treatment of diseases of the biliary tract, that is, the bleeding diathesis in patients with jaundice.

Clinical Versus Pathologic Cholecystitis

One of the most interesting phenomena of disease of the biliary tract is the impossibility of correlating the clinical with the pathologic evidences of disease of the gallbladder. The following case will serve to illustrate this fact:

A physician, age 52, entered the Mayo Clinic on Aug. 7, 1940. When retiring on the train the night prior to his arrival in Rochester, he had been seized by a sudden severe pain in the epigastrium which was associated with slight nausea. He vomited once and, soon after the onset of the pain, passed what was apparently a normal stool. The pain became localized to the mid-epigastrium just below the xiphoid process and was so severe that it became necessary to stop the train in order that a railroad surgeon might administer a hypodermic injection of morphine. The narcotic was ineffectual and the patient continued to suffer with the pain throughout the night. Suspecting that the pain might be due to thrombosis of the coronary arteries, he went directly to the hospital by ambulance. The pain was present when the patient was first seen 10 hours after its onset, but at that time it had become crampy and was not quite so severe. He stated that in the past 2 years he had had 2 similar episodes, in one of which there had been a tingling sensation which extended to

the left fingers. The electrocardiographic tracings were alleged to have been normal on both of these occasions.

Physical examination revealed an extremely apprehensive, well-developed, well-nourished individual in no apparent distress. There was slight tenderness in the epigastrium just to the right of the midline, but no rigidity. The systolic blood pressure measured 196 and the diastolic blood pressure measured 120 mm. of mercury. The results of examination of the urine were not remarkable. The leukocytes measured 13,200 per cubic millimeter and there were 87 per cent neutrophils. The sedimentation rate was 1 mm. per hour. Roentgenographic examination of the chest showed an elevation of the right side of the diaphragm. The borders of the heart seemed to be within normal limits. The gallbladder was found to be poorly functioning but no stones could be demonstrated definitely. With the exception of a moderate sinus bradycardia (rate 68), electrocardiographic examination failed to reveal any abnormal finding. His temperature was as high as 100.2 F. on the day after his admission, but then returned to and remained normal. Three days after his admission the leukocytes numbered 6100 per cubic millimeter, the sedimentation rate remained within normal limits, and all local tenderness in the abdomen had disappeared. The patient was allowed to leave the hospital for varying lengths of time and from every standpoint he seemed to be perfectly well. Because the attacks of pain seemed to be attributable to the gallbladder, exploration was carried out 8 days after the onset of the last attack.

Exposure through a primary upper right rectus incision revealed a gallbladder that grossly was acutely inflamed. The fat of the greater omentum was adherent densely to the gallbladder. After separating this structure, the organ was found to be markedly distended and edematous. Because of its distention, no definite stones could be felt in it. The results of abdominal exploration in other respects were normal. An attempt to tap the gallbladder with a trocar was made, but no bile could be obtained. Consequently a small opening was made in the fundus of the gallbladder and 2 large portions of substance resembling organized blood clot were removed with several small stones. The gallbladder was removed from below, the cystic duct and the cystic artery being ligated separately. The pathologist reported acute purulent cholecystitis on a basis of chronic cholecystitis (empyema) with markedly thickened, edematous, and infiltrated walls. The substance that filled the gallbladder was proved to be partially organized blood clot. Two stones were present.

This case has been recorded in some detail because it illustrates vividly the fact that a severe degree of inflammation may be present in the gallbladder, which may not be suspected from a careful study of the clinical history, from thorough physical examination, or from evidence that might be obtained from laboratory studies. From all evidence available, the acute inflammation had subsided completely and yet an acutely inflamed gallbladder was present. Such a situation is observed not infrequently and should be suspected in any patient who has experienced attacks of abdominal pain suggesting a pathologic condition in the gallbladder and in whom roentgenographic examination of the gallbladder

reveals a poorly functioning or a nonfunctioning organ. The attack of pain may have occurred several weeks prior to examination and yet on microscopic study of the gallbladder a subacute or acute inflammatory reaction can be demonstrated.

The well-known fact that roentgenologic examination may fail to demonstrate a pathologic condition in the gallbladder should be emphasized. Such a situation may be illustrated by the following case:

A housewife, age 41, entered the clinic Feb. 13, 1940, complaining of pain in the abdomen of 6 hours' duration. The pain was cramping and was situated in the right upper quadrant of the abdomen. She had had a similar attack a year before and in the interim had noticed gaseous dyspepsia with intolerance to fatty and fried foods. Two hypodermic injections of morphine failed to give relief and the patient was referred directly to the hospital. On physical examination moderate tenderness was noted in the epigastrium and upper right quadrant of the abdomen. White blood cells numbered 11,200 per cubic millimeter of blood, of which 87 per cent were neutrophils. The results of urinalysis were negative. Roentgenologic examination of the chest showed that the right side of the diaphragm was elevated slightly. The gallbladder was found to be functioning normally 5 days after the onset of the acute attack. The local tenderness rapidly subsided and because the patient lived nearby she was dismissed from the hospital on the tenth day after her admission.

Four months later she was readmitted with an attack similar in every respect to the preceding attack. This again subsided in 2 to 3 days and again roentgeno-

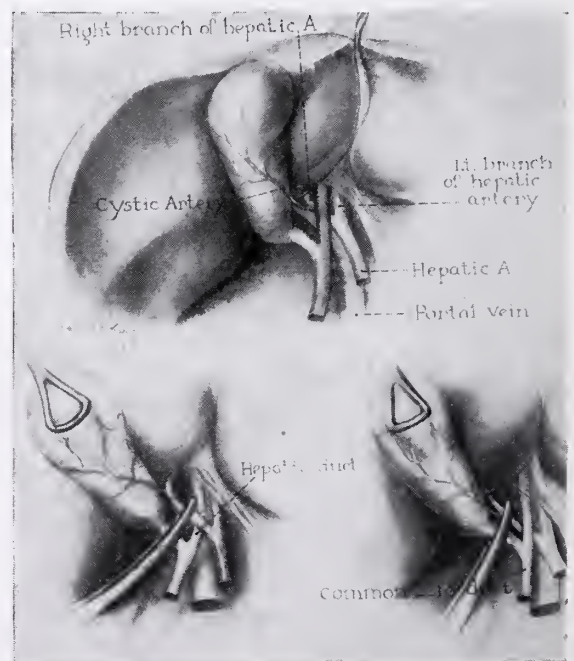


Fig. 1. The upper drawing represents the normal relationship of the right branch of the hepatic artery to the common hepatic duct. The lower drawings show the ease with which the right branch of the hepatic artery may be included in a hemostat during cholecystectomy if this structure should be anomalous, as shown.

graphic examination showed a normally functioning gallbladder. Because of the suggestive clinical story, it was thought best to explore the gallbladder in spite of the fact that no symptoms of an acutely inflamed gallbladder persisted and in spite of 2 reports of a normally functioning gallbladder by means of roentgenologic examination.

On July 5, 1940, abdominal exploration revealed a gallbladder that was grossly subacutely inflamed. It was very thick-walled and contained multiple stones, one of which was quite densely impacted in the lower portion of the gallbladder. The gallbladder was removed, as was also the appendix. Pathologic examination revealed subacute cholecystitis on a basis of chronic cholecystitis with moderately thickened and infiltrated walls, trabeculation, and cholelithiasis (largest stone, 9 mm.; smallest, 6 mm.).

That roentgenologic examination of the gallbladder is of inestimable value as an added bit of information in an attempt to establish a diagnosis none can deny. If, however, absolute reliance is placed on this method as a diagnostic procedure and consideration of the clinical history and other findings is minimized, certain patients (as the one just cited) will be denied surgical intervention when it is most decidedly indicated.

Anomalous Right Branch of the Hepatic Artery

Much emphasis has been placed rightly on the importance of a careful consideration of possible anomalies of the biliary tree, particularly of the cystic duct. Too little emphasis has been placed on a similar consideration of possible anomalies of the vascular tree, particularly of the right branch of the hepatic artery. The "normal" relationship of the cystic artery to the right branch of the hepatic artery is indicated in the upper drawing of Fig. 1. When the structures are arranged in this manner, it would be difficult to damage the right branch of the hepatic artery in the procedure of cholecystectomy. If, however, the right branch of the hepatic artery should cross in front of or immediately behind the common hepatic bile duct close to its union with the cystic duct (in our experience this occurs in about 10 per cent of patients), it might easily be included in a hemostat, as is indicated in the lower drawings of Fig. 1, with the result that the nutrition to the parenchyma of the right lobe of the liver would be deficient.

McIndoe and Counseller have shown in a most impressive manner the bilateral nature of the liver. By injecting fluid of one color into the right branch of the hepatic artery and fluid of a

different color into the left branch of the hepatic artery with subsequent corrosion of the parenchyma from around this vascular network, it was shown that there was practically no collateral circulation between the 2 lobes of the liver. In these experiments there was found an arteriolar anastomosis between the capsular and vaginal branches of the right and left sides, but this was not sufficient to prevent infarction of the corresponding lobe following occlusion of either branch.

Such experimental proof has been made available to substantiate the clinical impression that inadvertent ligation of the right branch of the hepatic artery will result in infarction and atrophy of a large portion of the right lobe of the liver. The possible relationship between such an event and the so-called "liver deaths" is readily apparent.

Summary

Because of the close relationship of problems associated with surgery of the biliary tract to the physiology of the liver, the physiologic activities in which the liver is concerned and also the alteration of physiologic processes in hepatic disease have been discussed briefly. The phenomenon of hydrohepatosis (cholangiectasia) has been considered and emphasis has been laid on the importance of early relief of any obstructing lesion of the common or hepatic ducts. That it is impossible to formulate a diagnostic method which will be without error in differentiating the many conditions associated with jaundice has been mentioned, and stress has been laid on the importance of close co-operation between internist and surgeon in the management of the jaundiced patient. The hemorrhagic diathesis in cases of jaundice has been considered. A short résumé has been given of the case histories of 2 patients to illustrate the fact that it may be impossible to correlate the clinical with the pathologic findings in patients with disease of the gallbladder, and to emphasize the fact that marked degrees of inflammation may be present in the gallbladder and fail to show on roentgenologic examination. Anomalies of the right branch of the hepatic artery may occur and this important structure may be damaged during the course of cholecystectomy unless meticulous care is exercised in recognizing the anomaly. The possible relationship of the inadvertent ligation of the right branch of the hepatic artery to "hepatic death" has been suggested.

Cerebral Complications Following Acute Infectious Diseases

Therapeutic Value of Convalescent Serum

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THE object of the present contribution consists of the following propositions: First, to place on record pathologic manifestations of an apparently serious character uncommon as to the date of their appearance, with a plea for early recognition. Second, to indicate important etiologic and pathogenetic problems that demand special consideration. Third, to call attention to a therapeutic conduct which, in the experience of the writer, gave quite satisfactory results.

It is a common observation that manifestations of cerebral character may occur at any phase of infectious processes, either during the febrile period or at its termination, also at the onset of the disease. On the other hand, their occurrence after complete recovery from the original maladies is decidedly not frequent. It is precisely the latter that will be considered here. The study covers a period of several years of observation. Before entering into elaboration of this thought-provoking subject, a brief account of the 16 cases is presented.

Post-Measles Group

CASE 1.—I. C., a girl, age 10, contracted measles after her baby brother recovered from the same affection. The duration was 14 days. Four days later a weakness was observed in the right arm and leg. The knee jerk was increased and frequently extensor plantar reflex was obtained on the stimulation of the sole of the right foot. Ten days later there was some rigidity on the same side. Treatment was promptly instituted with frequent intramuscular injections of a convalescent serum obtained from her brother's blood (10 c.c. every 2 days; in all, 10 injections). A decided improvement was noticeable after the third injection. In order to enhance the favorable results, vitamin B₁ was added and given continually by mouth. Three months later the symptoms disappeared. The child is well.

CASE 2.—N. O., a girl, age 8, on the fifth day after recovery from measles, developed a difficulty in speaking and a paretic condition of her right arm. Convalescent serum was promptly given every other day intramuscularly in doses of 10 c.c. Synthetic vitamin B₁ was added

daily after the third injection. Complete recovery followed in 24 days.

CASE 3.—S. K., a girl, age 11, following recovery from the objective symptoms of measles, began to complain of headache on the sixth day. Her temperature rose gradually to 102.2 F. Examination revealed a slight rigidity of the neck, Kernig and Brudzinski signs, and polynucleosis in the spinal fluid, chiefly lymphocytes. Convalescent serum in 10 c.c. doses every other day with a later addition of vitamin B₁ led to complete recovery in 3 weeks.

CASE 4.—B. A., a girl, age 14, contracted measles while living with a cousin, who made a complete recovery from the same disease. On the sixth day after her recovery she complained of headache and dizziness. Soon she became mentally dull, listless, and apathetic. Confusion was evident; she had difficulty in finding words she wished to use. She became disoriented in time and space and had illusions of identity. Her temperature was normal and there were no organic symptoms referable to the sensory motor apparatus. Every 3 days she was given 10 c.c. of convalescent serum obtained from her cousin, and later, also synthetic vitamin B₁. Amelioration was observed on the fifteenth day. Recovery followed 2 months later.

CASE 5.—J. S., a boy, age 7, went through an attack of measles of 12 days' duration. Six days later he began to complain of stiffness in both upper extremities and a passive tremor of both hands. The biceps and triceps reflexes were greatly increased. There was no pain in the arms, but the disability was great. The right lower extremity was soon involved; it also became rigid, so that in walking it scraped the floor. The reflexes of the lower extremities were intact. The case was evidently one of extrapyramidal involvement. Convalescent serum was given in 10 c.c. doses every day during a period of 10 days. The patient received 4 injections. At first there was considerable improvement, but when vitamin B₁ was added, total recovery took place on the twentieth day.

CASE 6.—D. R., a boy, age 12, contracted measles. The course was uneventful. On the fourth day, after apparent recovery, he began to show distinct disturbances of gait; he stumbled and fell frequently. Then he would walk to the right side and fall if not supported. Soon zigzag movements appeared; when left to himself he walked from side to side. The knee jerks were hardly obtainable. The plantar reflex was normal. He complained of dizziness. The ataxia, the character of the gait, and the state of the reflexes all indicated a

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cerebellar involvement. Under the convalescent serum (10 c.c. daily) the patient showed improvement on the tenth day. Final restoration of function followed quite rapidly when vitamin B₁ was added.

CASE 7.—T. R., a girl, age 15, had measles and apparently recovered. Five days later she began to complain of attacks of headache, of short duration. Soon they were followed by fainting spells, during which there were convulsive movements affecting the left arm and leg. They were typical of the jacksonian form of epilepsy. At first they occurred 2 or 3 times a day. All the attacks were identical. She presented the picture of characteristic postepileptic amnesia, with dullness and slight confusion and the sense of exhaustion after each attack. Sedatives had no prolonged effect. The attacks recurred. Convalescent serum in 20 c.c. doses was given every day for a period of 10 days. Rapid improvement followed after the tenth injection. Inasmuch as there was one seizure during this period, vitamin B₁ was added and continued for 15 days, while the convalescent serum was then given every other day. There was no return of unilateral convulsions in the next 3 months of observation.

Post-Mumps Group

CASE 1.—S. S., a man, age 27, contracted parotitis on one side. It lasted 3 weeks. While convalescing, he suddenly developed headache and fever with chills. Stiffness of the neck and aching in the lower limbs followed. There was a mild Kernig sign on one side. The knee jerks were markedly increased and at times there was a plantar reflex in extension on one side. The spinal fluid showed a mild lymphocytosis (24 cells). Several spinal punctures did not improve the condition. Finally, 3 injections of convalescent serum in 10 c.c. doses were given at 2-day intervals. The symptoms of meningo-encephalitis abated very rapidly. In view of this, vitamin B₁ was not given. Recovery occurred in 10 days.

CASE 2.—A. O., a boy, age 16, had an attack of unilateral parotitis with fever and headache. He made a complete recovery in 3 weeks. Five days later he had a chill, fever, and headache, also stiffness of the neck and tenderness of the dorsum, insomnia, greatly increased tendon reflexes of all 4 extremities, and extensor plantar reflex on both sides. He had difficulty in standing and walking. The spinal fluid showed 120 cells of the lymphocytic type. Four doses of convalescent serum were administered—10 c.c. each time. Internally, vitamin B₁ was given. Complete recovery followed on the fifteenth day.

CASE 3.—C. R., a boy, age 12, had an attack of parotitis on one side. Recovery was complete. Three days later meningeal symptoms began to develop. The following symptoms were present: headache, vertigo, great flaccidity of the legs and arms, greatly diminished tendon reflexes, muscular hypotonia, and inability to stand up without support. Three doses of convalescent serum were given—15 c.c. each time. Great improvement followed. Vitamin B₁ was not given. Recovery took place on the twentieth day.

CASE 4.—K. J., a woman, age 23, had an attack of bilateral parotitis from which she recovered on the twelfth day. Four days later she began to complain of sharp pain in the lower limbs. Soon there was pain in the cervical spine. She then had some difficulty in swallowing and some dyspnea. At the same time there

were myoclonic movements of the face, legs, and abdominal walls. Headache followed. The tendon reflexes were greatly diminished. The spinal fluid showed 86 lymphocytes. Convalescent serum in 20 c.c. doses was promptly administered. No favorable results could be seen even with 6 injections and the addition of vitamin B₁. The patient died. Necropsy was not permitted.

CASE 5.—T. K., a boy, age 7, had a unilateral parotitis. Three days after apparent recovery the patient complained of headache. Vomiting and marked dizziness followed. The temperature gradually reached 103 F. The neck was stiff and the Kernig and Brudzinski signs were present. The dorsum was tender to pressure. The spinal fluid showed 110 cells. Frequent spinal punctures gave some relief. When convalescent serum was added, rapid improvement followed. Vitamin B₁ was not given. Recovery took place on the twenty-first day. The patient had 4 injections of 15 c.c. each.

CASE 6.—A. C., a girl, age 8, had unilateral parotitis. She recovered in 15 days. Three days later she complained of pain and stiffness in the legs. On the following day a tremor appeared in the right upper extremity which was particularly marked upon voluntary movements. The temperature was normal. The spinal fluid gave only 3 cells. The reflexes were increased, but there was no pathologic cutaneous reflex. The patient was bedridden. Five injections of convalescent serum and vitamin B₁ failed to relieve the condition. At present her legs are somewhat rigid and the rigidity increases with any voluntary act. The tremor is still present, 4 months after the onset. At the time of writing the treatment is still continued.

Post-Diphtheria Group

CASE 1.—A. S., a boy, age 7, had an attack of diphtheria for which he was treated with specific serum with good results. Six days after complete recovery the child became dull and apathetic, complaining of headache. The temperature was normal. Soon he developed some difficulty in swallowing and slight choreiform movements in the left arm. Examination showed, in addition to the foregoing, a marked diminution of the left knee jerk, very slow and indistinct speech, and a palsy of the external rectus muscle of the left eye. Antidiphtheritic serum was given 3 times, but the results were nil. Then convalescent serum was administered (20 c.c.); some improvement followed. Two days later another injection was given and vitamin B₁ was added, following which greater improvement was observed. Recovery was complete on the fifteenth day.

CASE 2.—D. S., mother of the child in the first case, age 25, while taking care of her diphtheritic boy, contracted the disease in a virulent form. After being treated with the specific serum, she finally recovered. On the tenth day after convalescence the tone of her voice changed and there was difficulty in masticating. The respiration also became embarrassed. It was noticed that the respiratory intercostal muscles did not functionate fully. Moreover, all the rectus muscles of the right eye were paralyzed. The patient was mentally dull, could not sustain a prolonged conversation, and at times she showed some confusion. Antidiphtheritic serum was given, but without success. Convalescent serum was taken from her child and given to the mother at 3 different times, 2 days apart, in doses of 20 c.c. Considerable improvement was obtained. When vitamin B₁ was added, a decided improvement was noted. Recovery was complete in 3 weeks.

CASE 3.—K. M., a boy, age 8, contracted diphtheria. Specific serum led to complete recovery. Ten days later the child developed typical meningeal symptoms (Kernig and Brudzinski signs, rigidity of the neck, temperature of 101.5 F., general prostration, and 24 cells in the spinal fluid). Four days later palsy of the external rectus of the right eye was noticed. Injections of antidiphtheritic serum met with failure. Convalescent serum (10 c.c. every other day) and later in association with vitamin B₁ brought rapid improvement. The convalescent period was very long. For 3 months the boy was confined to the house.

An analysis of the entire series of cases shows that the following segments of the cerebro-cerebellospinal system presented symptoms of invasion:

1. In the post-measles group, the left cortex and internal capsule (cases 1 and 2); the extrapyramidal system (case 5); the cerebellum or its connections (case 4); the right motor area (case 7); the meninges (case 6); the meninges and encephalon in a diffuse manner (case 4).

2. In the post-mumps group there were indications of meningitis (4 cases); of bulbar disorders (case 4); and of extrapyramidal disturbance (case 6).

3. In the post-diphtheria group bulbar and cranial nerve symptoms were observed.

It is to be noted that in the measles group the predominance of invasion was in the gross segments of the cerebrum and cerebellum. In the parotitis group the majority of cases showed invasion chiefly of the meninges. In the diphtheria group we observed chiefly involvement of the nuclei of some cranial nerves including those situated in the medulla.

As to the effect of convalescent serum, the cases show that the quickest results were obtained when it was combined with the internal administration of vitamin B₁, although favorable results were noticed also from the serum without the vitamin. Of some significance from the standpoint of pathogenesis is the fact that in the diphtheria cases, although the cerebral symptoms began to develop shortly after recovery from the original infectious disease, the antidiphtheritic serum had no effect on the cranial nuclei. Attention is also called to the comparative rapidity of improvement after the injections of convalescent serum, and eventual recovery from an apparently grave involvement of the cerebrospinal system. Failure of improvement was observed only in one case of parotitis. As to the number of injections, no uniformity was observed: some cases required 3, others 5, and some still more.

For elucidation of the entire subject an attempt is made here to solve the following 4 questions: (1) What was the *modus operandi* in

the production of transient cerebrospinal symptoms? (2) What was the agent or factor that produced those symptoms? (3) What was the intimate effect of the convalescent serum? (4) Why did the addition of vitamin B₁ hasten the recovery?

As to the first question, the author found that in the comparatively rare cases of postinfectious encephalitis which came to necropsy the findings consisted of perivascular infiltrates with polynuclear cells. In the largest majority of cases, exclusive of encephalitis lethargica, one may say affirmatively that almost all present a favorable prognosis, that there is complete absence of specificity, and that any infectious disease may produce symptoms referable to localized or diffuse nonsuppurative disorders in the cerebrospinal system.

In the previously described cases, the rapid appearance of sensorimotor disturbances and their equally rapid regression when under treatment—otherwise speaking, the transient character of the morbid manifestations—warrant one to ascribe the latter exclusively to a functional vasomotor disorder in the nervous tissue.

The resemblance of the cases under discussion to those in postvaccinal encephalitis observed in prophylaxis or therapeutics of some infectious diseases is striking. Experience with antipneumococcic, antistreptococcic, antitetanic, and antidiphtheritic sera is abundant with occurrences of hemiplegia, aphasia, radiculoneuritis, and other manifestations referable to the central and peripheral nervous systems. The same characteristics, in onset, evolution, and regression of the morbid manifestations are observed. In the few postvaccinal cases that came to necropsy the lesions found were identical with those observed in cerebral disorders developed in the course of the infectious diseases mentioned; namely, vasodilatation with perivascular infiltration.

We are therefore justified in concluding that in the postinfectious cases as well as in the postvaccinal cases we are dealing with one common factor; namely, a sudden or rapid disturbance in the vasomotor apparatus of the central nervous system, vasodilatation or vasoconstriction, each of which may produce respectively a hyperemia or anemia of a given area, thus producing a functional disorder in the sensorimotor apparatus with corresponding symptoms.

The second question now arises: What is that special factor that leads to vasomotor phenomena? In the postinfectious cases of the present series the individuals made complete recoveries from their original maladies and, during convalescence, were stricken with the cerebral dis-

orders. Is one justified in concluding that the bacterial element specific of the original disease and the virus elaborated by it have not been entirely eliminated from the economy and become activated? That this is not the case can be seen at least from the failure of antiphtheritic serum to improve or remove the complications in the third group of cases. On the other hand, we know from experience that in infectious diseases there may be several infectious agents that are at work, among which one special virus may have a neurotropic affinity for nervous tissue. Is it not possible or even probable that this particular agent is the real factor in producing meningo-encephalic alterations via the vascular system which vary in localization according to individual variations in the state of the cerebrospinal system? The individual variability in the state of the cerebrospinal axis may explain the fact that while in the majority of postinfectious assaults on the encephalo-medullary axis the damage is only a temporary functional disturbance, which regresses and eventually disappears, in another small group of cases the damage is definite and gravely not regressive, thus indicating a different pathologic process.

The third important problem that the present work suggests is: What is the intimate effect of convalescent serum that gave satisfactory results in all the cases of the series except one? Clinical experience of long standing with convalescent serum in acute anterior poliomyelitis permits me to make the statement that in many instances early administration of it gives satisfactory results, especially in the preparalytic stage of the disease, also in the so-called abortive cases, and in some instances shortly after the paralysis has made its appearance. From the cases in which I failed and from those in which I was successful I arrived at the conclusion that the earlier the treatment with convalescent serum is instituted, the better is the effect; also, the more recently the donor of the serum had anterior poliomyelitis, the more effective the serum proved to be. The latter observation, although purely clinical, finds by analogy some support from the experimental angle. Although the experiments have reference to another infectious disease, nevertheless the principles enunciated may find a strong application to other infectious processes.

In a very recent contribution¹ Moore and the 2 Thalhimers present an erudite study of antitoxin content and bactericidal power of convalescent scarlatina serums. They state that "in one case blood serum drawn 3 months after the

onset of the disease possessed excellent bactericidal activity, but in one in which the serum was drawn 6 months after the onset, the latter was devoid of antibodies." The following is another important statement with reference to the subject under discussion: "Immune substances other than antitoxin are present in convalescent serum in demonstrable amounts and may contribute to the effectiveness of the serum." The same writers are in favor of obtaining serum from individuals who have recently recovered from the infectious disease.

My clinical observation concerning the greater value of convalescent serum in recent cases may appear only empirical, but the deductions appeared logical from the standpoint of the general conception of antibodies; moreover, we are now in possession of actual experimental evidence as seen in the work of the aforementioned writers. We may therefore conclude that both antitoxic and bactericidal substances persist in patients' serum for several months. In the cases in my series the meningo-encephalitic phenomena began to appear several days after recovery from the original infectious diseases (between 3 and 10 days), and the treatment with convalescent serum from comparatively recent cases was instituted but a few days later. The effect obtained therefore suggests convincingly that the antitoxic and bactericidal properties of the serum were strongly positive and for this reason led to satisfactory therapeutic results.

The fourth and last problem which is to be discussed is the value of vitamin B₁ in the post-infectious involvement of the cerebrospinal axis. Attention is called to the fact that in the majority of the cases, while the convalescent serum showed beneficial effect, the addition of the vitamin hastened the recovery. Close study of the use of this biochemical agent in a great variety of pathologic conditions by many writers as well as personal observations lead to the conclusion that "improvement in the general nutrition, and therefore in resistance, is in all probability the basic factor." Polyneuritis, degenerative states of the nervous tissue due to anemia, intoxication by alcohol, lead, arsenic, nutritional edema, all of which improved under treatment with vitamin B₁, demonstrate the fact that in all such conditions there is a derangement of metabolism. The pathologic changes in these cases are totally similar to those observed in avitaminosis.

We are now in possession of many facts showing again and again the trophic value of vitamin B₁. P. Feige, reviewing 100 cases of post-diphtheritic paralysis, suggests that it is the re-

sult of concurrence of toxic impairment of the tissues and lack of B₁ substance which has a ferment-like action. Since all infectious conditions produce metabolic and trophic disturbances, the addition of the vitamin was indicated in the postinfectious disorders of the cases described in this paper. Recovery was strikingly hastened by this addition.

Summary and Conclusion

Sixteen cases of cerebrospinal complications following complete recoveries from measles, parotitis, and diphtheria are reported. Treatment with convalescent serum with the addition of vitamin B₁ is described.

Four problems suggested by these cases presented themselves for consideration: (1) The determination of the mechanism of the formation of the cerebrospinal complications. The transient character of the latter suggest a vasomotor disorder. (2) The agents or factors responsible for the complications in the cerebrospinal system are probably a neurotropic virus and individual variations in the state of the cerebrospinal system. (3) The rationale of administration of convalescent serum because of the antitoxic and bactericidal substances persisting in patients' serum for several months. Early administration of convalescent serum taken from a donor who has recently recovered from the infectious disease gives the best results. (4) The therapeutic value of the association of vitamin B₁ based on its physiologic effect on tissues. The results of such treatment are presented and the importance of early recognition of the complications is indicated.

REFERENCE

1. MOORE and THALHIMER: *Am. J. Dis. Child.*, November, 1939, v. 59, p. 1039.

ABSTRACT OF DISCUSSION

MITCHELL BERNSTEIN (Philadelphia): It is very striking that in the report of Dr. Gordon's 16 patients

the neurologic symptoms occurred anywhere from the fourth to the tenth day after the subsidence of the underlying infection. That raises the question as to whether these neurologic symptoms really existed before their recognition by Dr. Gordon.

Frequently, neurologic symptoms occur during the course of the infectious disease. That raises another important and striking point. In the treatment of patients with infectious diseases, all of us pay particular attention to examination and re-examination of the patient's heart, lungs, and abdomen, but I wonder how often we make even a cursory examination of the neurologic system.

The cranial nerves often become involved with resultant disturbance in the movements of the eyes, facial asymmetry, deviation of the tongue, and defects in hearing. The presence of nuchal rigidity, disturbances in the deep reflexes, determined by the use of a percussion hammer, and the detection of a positive Babinski sign are all indicative of central nervous system involvement. The prognosis would probably be influenced in many patients if these neurologic complications were observed early and proper treatment promptly instituted.

Regarding the use of convalescent serum, Levaditi and Landsteiner, and Flexner and Lewis, in 1910, injected monkeys with the poliomyelitis virus, intraspinally. It is interesting to note that paralysis was prevented when these animals were injected with immune serum within 24 hours of the original virus injection. These experiments were the basis for immune serum therapy.

Dr. Gordon's results in the use of convalescent serum in the preparalytic stage of poliomyelitis have been very successful. However, this entire subject remains debatable.

I should like to ask Dr. Gordon some questions regarding the amount of vitamin B₁ that he used in conjunction with the serum. How much was used? How was it administered—by mouth, intramuscularly, or intravenously?

That raises the question of loose prescribing of vitamins in combinations without any logical reason. The various vitamins sold in department stores with a hit or miss idea are to be frowned upon. Vitamins should be prescribed for definite deficiency entities in sufficient dosage to meet the requirements.

Despite the advances in chemotherapy, it is interesting to note that sulfanilamide, sulfapyridine, and sulfathiazole have been of no avail in the treatment of the virus diseases, including those mentioned by Dr. Gordon.

SECOND TETANUS ATTACK IS POSSIBLE

The possibility of a second attack in the same patient of tetanus, or lockjaw, a disease the first attack of which generally produces immunity, is emphasized in *The Journal of the American Medical Association* for June 1 by Hyman I. Vener, M.D., and Albert G. Bower, M.D., Los Angeles, who report the sixth case in medical literature of a second attack.

The disease, which is caused by a highly dangerous germ usually entering the body through penetrating wounds, has a high fatality rate, which may be materially reduced when large doses of antitoxin are given early.

It is possible, however, that some apparent relapses have actually been second attacks. "When several months have elapsed with complete freedom from

symptoms following the successful treatment of clinical tetanus," the authors state, "it seems fair to assume, in the presence of new causative factors, that one is dealing with a second attack of tetanus. All known foci or suspicious wounds must have been completely eradicated and the wounds present during the former attack completely healed."

In the authors' patient the first attack occurred at age 5, apparently as the result of a wound which he received from stepping on a nail. He was successfully treated with tetanus antitoxin. At age 9 he again entered the hospital with symptoms of tetanus. Three weeks before his entrance he had cut his right foot on some glass and 2 weeks later had been struck on the shoulder with a dirty stick. The wound on the heel was considered the most probable center of infection. Antitoxin treatment again produced complete cure within a month.

Paroxysmal Rapid Heart Action

Differential Diagnosis and Treatment

WENDELL J. STAINSBY, M.D.

Danville, Pa.

THE term "paroxysmal rapid heart action" embraces a group of cardiac disorders that are of importance not only to the physician but to the various medical specialists as well, as they are of comparatively frequent occurrence, begin without warning, and frequently require prompt treatment. They may occur in individuals in apparently good health while they are at work or play; on the other hand, they may begin during a surgical operation, during an obstetrical delivery, or under other unexpected circumstances. It is important to distinguish these cardiac abnormalities one from the other, as their treatment and prognosis differ considerably. Another important factor about this group of diseases is that the diagnosis can often be made clinically without the use of elaborate equipment such as the electrocardiograph.

Paroxysmal Auricular Tachycardia

Paroxysmal auricular tachycardia (Fig. 1) is the most common form of paroxysmal rapid heart action. The presence of this disorder does not necessarily indicate serious underlying cardiac pathology. It may begin without any apparent initiating factor, but nervous excitement sometimes produces an attack. In my experience a surgical operation has been the most common exciting cause of the condition.

Paroxysmal auricular tachycardia always begins suddenly and ends suddenly. The patients experience varying degrees of palpitation of the heart and nervousness. There is seldom any pain or dyspnea, although belching of gas and vague epigastric distress often occur. The patients are usually distinctly apprehensive and need relief as soon as possible. With such patients who have serious organic heart disease, more severe symptoms may appear such as cyanosis, congestive heart failure, and even death. An attack may last from a few minutes

to several hours or days. Some patients may have a series of attacks every few minutes; others have attacks of longer duration with intervals of weeks or months and rarely years.

On physical examination the heart rate is found to be markedly accelerated, usually varying from 150 to 250 beats per minute. The characteristic feature about the heart beat is its distinct regularity. In listening to the heart sounds, it is noted that any particular beat is of the same intensity as any other beat without any evidence whatever of any variation. This regular rhythm cannot be modified by exercise, such as having the patient turn from side to side or by having him sit up and lie down several times. On the other hand, with simple tachycardia or other cardiac disorders associated with increased heart rates, such procedures increase the rate. The diagnosis, therefore, can often be made from the history of sudden onset of the condition, from the rapidity of the heart rate, and from the regularity of the beat unmodified by exercise.

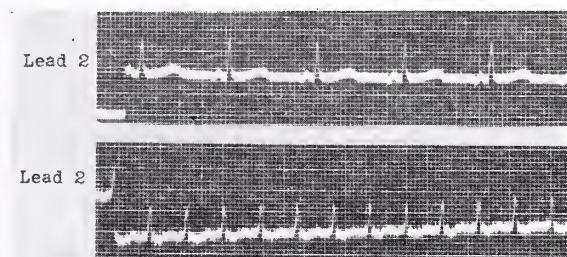


Fig. 1. Electrocardiographic tracings from a patient with paroxysmal auricular tachycardia. The upper tracing was taken between attacks; the lower one during an attack. The condition was readily controlled by carotid sinus pressure or quinidine.

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prior to dividing into the external and internal branches. Firm massaging over this area for several seconds or a minute frequently stops the attack.

Firm pressure with the thumb on the eyeball is another useful method in stopping an attack. Having the patient hold his breath as long as possible is also effective at times.

If these simple clinical methods fail, quinidine sulfate by mouth is the treatment of choice. The initial dose is usually 10 grains, and the drug may be repeated at 4-hour intervals in 5-grain doses. Generally one or two doses of quinidine control the attack. In patients who are having frequent attacks of this form of tachycardia, 3 to 5 grains of the drug 3 times a day will generally prevent further attacks.

In the rare case where quinidine does not control the condition, large doses of digitalis are indicated.

Paroxysmal Auricular Flutter

Auricular flutter is a more common condition than is generally assumed. It sometimes precedes the development of auricular fibrillation, and may occur as a chronic disease or in paroxysmal form.

Auricular flutter is characterized by a rapid auricular rate usually ranging from 250 to 350 beats per minute, while the ventricular beat is generally at half the auricular rate but may be at only one-quarter or one-sixth of this rate.

The symptoms of auricular flutter are not characteristic in any way and are similar to that with other forms of rapid heart action. Palpitation of the heart, weakness, shortness of breath, and nervousness are commonly seen. The greater the ventricular rate and the less the cardiac reserve, the greater are the symptoms.

Auricular flutter can frequently be diagnosed clinically. The ventricular rate in this condition as measured by listening to the heart or taking the pulse is usually rapid and regular but rarely exceeds 190 beats per minute, while auricular tachycardia, on the other hand, usually does exceed this figure. Another differentiating feature is that in auricular flutter the rate may be changed by exercise, which never occurs in auricular tachycardia. The auricular rate cannot be ascertained by listening to the heart with a stethoscope, but can be determined in many instances by examining the neck veins when they are partially filled with blood by placing the patient in a nearly horizontal position. In this position the auricular pulsations are frequently transmitted to the neck veins, and from counting these pulsations the rate of the auricular contractions

can be determined. If one can ascertain that the auricular rate of contraction is one-half, one-quarter, or one-sixth the ventricular rate, the diagnosis of flutter is established. When the auricular rate cannot be determined by examining the neck veins, it can frequently be obtained by counting the auricular pulsations under the fluoroscope, and of course a clear-cut picture of the condition is obtained by the electrocardiogram (Fig. 2). Auricular flutter cannot be stopped by carotid sinus pressure, although the degree of heart block may change with this procedure. The condition is readily differentiated from auricular fibrillation by the regularity of the beat.

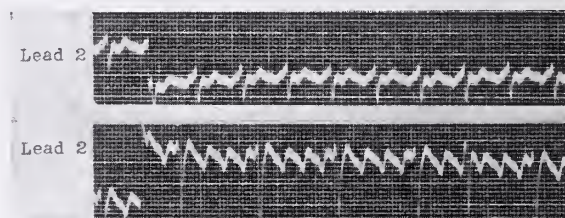


Fig. 2. Electrocardiographic tracing of a patient with auricular flutter. The upper tracing was taken between attacks; the lower during an attack.

Adequate treatment of paroxysmal auricular flutter is very important, as the condition can usually be corrected and normal sinus rhythm restored. If untreated, the disease tends to become chronic with progressively increasing cardiac disability.

Quinidine is the therapeutic agent of choice and is given as quinidine sulfate—from 5 to 10 grains every 4 hours until normal sinus rhythm is restored or until it is determined that the condition cannot be relieved, which becomes certain in from 3 to 6 days' use of the drug.

When quinidine fails to correct the flutter, digitalis will markedly benefit the condition. Complete digitalization is desirable and by increasing the heart block it lowers the ventricular rate with marked symptomatic improvement. If auricular fibrillation develops under digitalis therapy, complete withdrawal of the digitalis at this time sometimes results in normal sinus rhythm. If this does not occur, digitalis should be maintained indefinitely.

Paroxysmal Auricular Fibrillation

Auricular fibrillation is a common cardiac disorder and always indicates underlying cardiac disease. It occurs in both the paroxysmal and chronic forms. The disorder is readily recognized clinically by the totally irregular nature of the heart beat and pulse.

Too often we, as physicians, immediately think

of digitalis when auricular fibrillation is diagnosed. Yet frequently better results can be obtained and normal sinus rhythm again secured by the judicious use of quinidine under certain very well-defined limitations.

When the auricular fibrillation is known to be of less than one week's duration or is occurring in paroxysmal form, quinidine in doses of from 5 to 10 grains every 4 hours will change the mechanism to normal sinus rhythm in a high percentage of cases (Fig. 3). With those cases relieved by quinidine, it is usually advisable to continue a maintenance dosage of the drug daily for a few days to prevent a recurrence of the fibrillation.

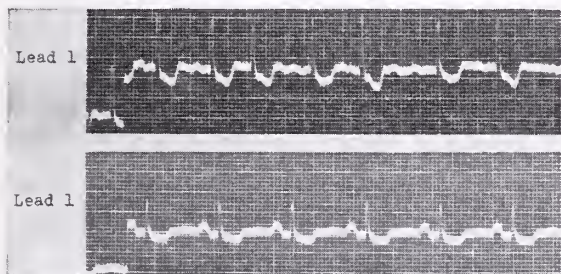


Fig. 3. Electrocardiographic tracing of a patient who developed auricular fibrillation while under observation in the hospital. The first tracing was taken during the attack; the second after the condition was controlled with quinidine.

In those patients with auricular fibrillation not relieved by quinidine, digitalis is clearly indicated. While digitalis does not tend to relieve the fibrillation, it slows the ventricular rate, improves the congestive heart failure, and lessens symptoms.

Paroxysmal Ventricular Tachycardia

Paroxysmal ventricular tachycardia is the most serious form of paroxysmal rapid heart action and fortunately the least frequent. It usually indicates serious underlying organic heart disease, often coronary thrombosis. Marked digitalis intoxication may also produce the condition.

The symptoms of paroxysmal ventricular tachycardia are similar in most respects to those of other members of the group of diseases under discussion; namely, palpitation, weakness, and nervousness. These patients, in addition, may have cardiac pain and a fear of impending death.

The condition can frequently be identified by bedside examination. The cardiac rate is rapid and the rhythm in general quite regular. On careful auscultation for several minutes, however, the physician can usually detect minor irregularities such as variations in the intensity of the beat and muffled or reduplicated sounds which never occur in paroxysmal auricular

tachycardia, the condition with which it is most likely to be confused. In addition, in examining the veins of the neck for pulsations, it may be found that there are fewer such impulses than there are ventricular beats. These 2 characteristic features often make it possible to determine the diagnosis of paroxysmal ventricular tachycardia at the bedside. When in doubt, the electrocardiograph clearly indicates the diagnosis (Fig. 4).

Adequate treatment of this condition is often a life-saving measure. Carotid sinus pressure or pressure of the eyeball will not benefit the condition. Digitalis, likewise, is of little if any value. Quinidine is the drug of choice and may be used in a similar manner to that previously described. When the clinical symptoms are very severe or the patient is failing rapidly, 10 grains of quinidine dissolved in 250 c.c. of saline solution may be injected intravenously. The solution should be administered slowly and may save the patient's life.

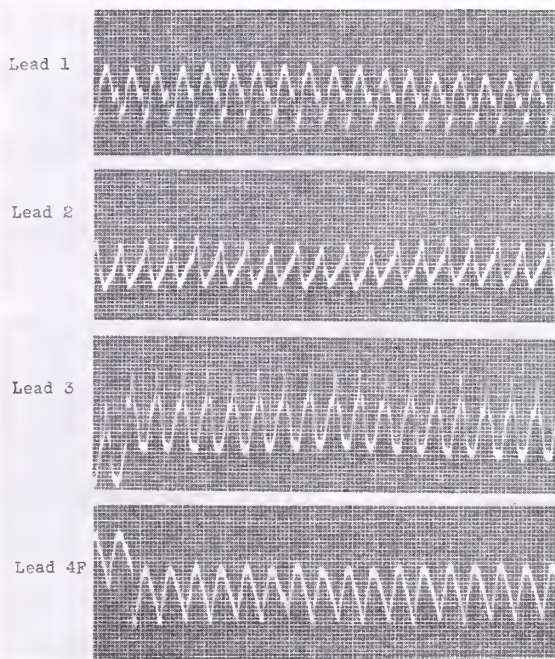


Fig. 4. Electrocardiographic tracing of a patient with paroxysmal ventricular tachycardia relieved by quinidine.

Contraindications to Quinidine Medication

The chief dangers of quinidine medication are through the liberation of a mural thrombus, or because of its toxic effects. To avoid this, there are certain definite contraindications to its use:

1. Advanced valvular disease of the heart.
2. Marked cardiac hypertrophy.
3. Auricular fibrillation of long duration, such as more than a week or 10 days.

4. More than minimal congestive heart failure.
5. Patients with idiosyncrasies to cinchona alkaloids.
6. Following recent coronary thrombosis, unless the results expected are considered to be of a life-saving nature.

Conclusions

1. Paroxysmal rapid heart action covers an important and frequently occurring group of disorders.
2. It is important to differentiate these conditions clinically, as an electrocardiograph may not be quickly available.
3. When correctly diagnosed and adequately treated, the results of treatment in this group of diseases are often spectacular and sometimes life-saving.

ABSTRACT OF DISCUSSION

JOSEPH B. CADY (Sayre): The subject of paroxysmal rapid heart action is an extremely important one because, as Dr. Stainsby has indicated, its incidence is by no means infrequent and its differential diagnosis and treatment are always essential and often life-saving.

I should like to stress the particular importance of the patient's past history in the diagnosis of the supra-ventricular types of tachycardias. In our own experience this is the most important single item in diagnosis since we seem to see during an acute episode only about 5 to 10 per cent of the patients who complain of their rapid heart action. But for the present consideration and particularly as regards treatment it is the acute episode which merits discussion.

Besides the treatment already outlined for paroxysmal auricular tachycardia, and by way of tribute to Isaac Starr, M.D., who has done so much here in Philadelphia to investigate the drug and to make its use safe, I should like to mention acetyl-beta-methyl choline or mecholyl. This drug given subcutaneously in appropriate doses has been found to stop attacks of paroxysmal tachy-

cardia in 90 per cent of instances. It is the most physiologic method of treatment we possess and one for which we have an absolute antidote (if it becomes necessary) in atropine sulfate, which should be always at hand when the drug is given. In our experience the usefulness of mecholyl has been diminished by the various disagreeable side effects, including severe sweating, vomiting, abdominal cramps, and diarrhea, which are often more distressing to the patient than the cardiac attack itself. We have reserved its use, therefore, for only the more severe attacks, and in these the drug's effectiveness has been repeatedly demonstrated.

I am particularly interested in Dr. Stainsby's discussion of the uses of and contraindications to quinidine medication. If the contraindications which he has mentioned are kept in mind and if the patients are carefully selected and evaluated, we believe that quinidine can be given with perfect safety. Many of the tragic catastrophes following quinidine administration can be found to occur in patients with one or more of these contraindications existent. The drug is grantedly a potentially dangerous one and its indiscriminate use is to be seriously discouraged, but on the other hand it is an extremely useful drug when the indications for its administration are present.

We have been somewhat less orthodox than Dr. Stainsby in our methods of quinidine therapy. Our medical college dictates were to give the drug in gradually increasing doses at 4-hour intervals "around the clock." The work of Weismann, Soma Weiss and Hatcher, and others has shown that following the ingestion of quinidine the peak of its concentration in the blood of human subjects and in the heart muscle of dogs occurs in from 30 to 60 minutes depending upon the dose, and the concentration quickly falls thereafter until it has disappeared almost completely from the tissues by the end of 4 hours. For these reasons we have followed the methods of administration used at the Mayo Clinic and other centers of "bombarding" the heart, as it were, by the repeated administration of quinidine at hourly intervals for several doses followed by a rest of a few hours and then a repetition with larger doses. This method has been found quite effective and free from ill effects so far, and we believe the method worthy of more universal application.

JOURNAL ADVOCATES ELIMINATION OF AMBULANCE CALLS FOR INTERNS

"Not infrequently one hears that hospitals cannot secure acceptable interns because there are not enough to go around and that the number of graduates from approved medical schools is insufficient to supply the needs of the hospitals which offer to train interns," *The Journal of the American Medical Association* for Nov. 2 observes.

"Granted that there can never be an exact correspondence between the supply and the demand for interns, it seems worth while to consider whether the available medical graduates are now distributed in accordance with the legitimate needs of the institutions they serve. In many of the best teaching hospitals the house staff bears a ratio to the annual admissions of 1:400 or 1:450. In private institutions the ratio may be as high as 1:600 or 1:800. In the New York metropolitan area there are at least 45 hospitals with a house staff in excess of 1:400, 10 of them in excess of 1:200. Why

do these hospitals employ so many more interns and residents than other institutions which maintain unimpeachable educational standards?

"Apparently all the hospitals which operate with an excessively large house staff also maintain an ambulance service, and a substantial part of the intern's time is devoted to ambulance duty. For example, in one of the city hospitals each intern is required to spend 4 months out of 12 'riding the ambulance.' In a private hospital the junior interns spend half their time in the ambulance service. If ambulance calls were in reality medical emergencies, this experience might be of value to the intern; most of the calls, however, are for transfers or other services which contribute nothing to the education of the physician. These functions could as well be performed by nurses or orderlies; certainly such experience is out of place in an accredited program for the training of interns. Elimination of this undesirable feature of the intern's education (?) in New York City would release a substantial number of interns for service elsewhere."

Clinical and Physiologic Investigation of Air Conditioning

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THE term "air conditioning" has produced vast changes in our concepts of the environment in which we live. As physicians it is important that we understand not only the physiologic effects but also the technical information advanced by the engineering profession. At first glance, the latter may seem intricate, but briefly, there are 4 factors in the atmospheric environment which affect the equilibrium of body temperature by heat loss or heat gain. They are (1) temperature of the air, (2) moisture content, (3) air movement, and (4) radiation transfer between the body and its surroundings. If we remember that it requires more than one factor to designate environmental conditions, the problem of understanding components of any air-conditioned space will be simple.

An ordinary thermometer will not indicate the air condition but merely the temperature of the air as a single factor, or dry bulb. For greater accuracy both dry and wet bulb thermometers are necessary, and the latter indicates the lowest temperature which may be realized by a wetted surface due to heat loss by evaporation. In other words, an increase in wet bulb reading would diminish the loss of heat by evaporation, while a lower wet bulb reading would result in the reverse. The relative humidity or moisture content of the air needs no explanation. For the sake of brevity I shall refer to a psychrometric chart (Fig. 1) originally developed by co-operating physicians, physicists, physiologists, and engineers of the U. S. Public Health Service, the U. S. Bureau of Mines, and the Research Laboratory of the American Society of Heating and Ventilating Engineers. This scale takes into account the air temperature, moisture content, and movement and is a true measure not only of a person's feeling of comfort but also of the physiologic changes. As a single example of the usefulness of such a scale, let us point out that on a moderate summer day when the relative

humidity (moisture content) is low, the dry and wet bulb temperatures may be 85 F. and 64 F. respectively (Point A, Fig. 1); while on a summer day when the relative humidity is high, the dry and wet bulb temperatures may be 85 F. and 76 F. respectively (Point B, Fig. 1). The first condition has a relative humidity of 30 per cent and an effective temperature of 75 F., while the second condition with a relative humidity of 70 per cent has an effective temperature of 80 F. This is interesting since both conditions have the same dry bulb temperature as observed by an ordinary thermometer, but the second condition would be considerably warmer as indicated by the higher effective temperature, which is a combined index of temperature and moisture affecting a person's feeling of warmth. The effective temperature scale is composed of thermal equivalent lines of equal comfort, and any chosen point on any line will give the same degree of comfort and will indicate the components which make up the conditioned air.

The attention of the medical profession has been drawn to the hazards of surgery performed in extremely hot weather. In our haste to make conditions suitable for the surgeon we have neglected to a certain extent the desirable conditions necessary for the postoperative patient. In other words, a recovery room adjoining the operating room is quite necessary to continue the care of the patient operated upon because the dangers in the hours after are far greater than those during surgical procedures. Since the patient spends more time in the recovery than in the operating room, it becomes obvious that the air-conditioned surgery is only one part of the hospital arrangement. The conditions necessary for comfort in the operating room are approximately 68 to 69 F. effective temperature, which, when given in common terms, would mean a dry bulb temperature between 72 and 74 F. and a relative humidity of from 50 per cent to 60 per cent. Instead of relying entirely on a difference between outside and inside temperatures, we have used the effective temperature scale and have

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From the Department of Industrial Hygiene, School of Medicine, University of Pittsburgh.

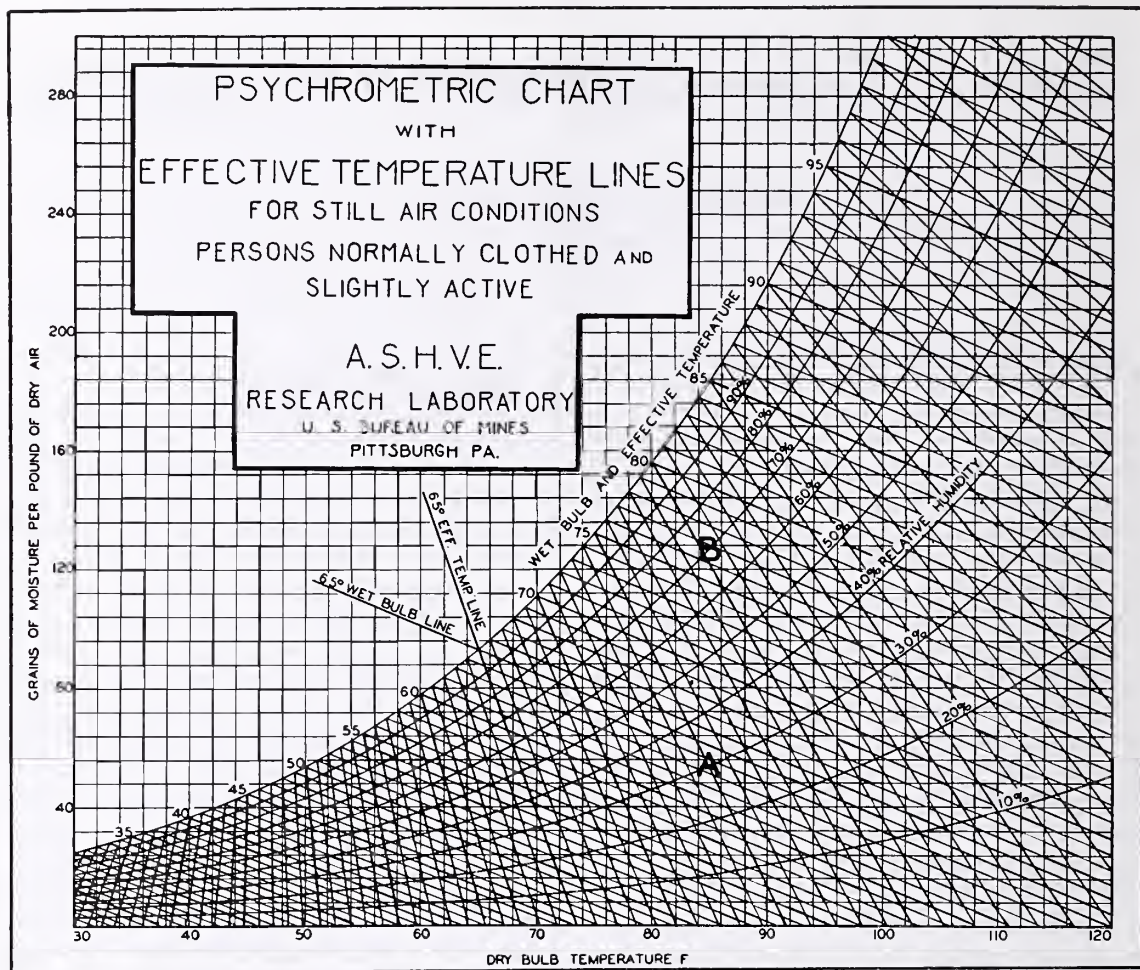


Fig. 1. Psychrometric chart for high effective temperatures (reprinted by courtesy of the American Society of Heating and Ventilating Engineers).

been able to produce fairly constant environmental conditions satisfactory to almost 90 per cent of the occupants of the operating room. It was once stated that the body under anesthesia must be kept extremely warm, but we have shown in an experimental operating room that the greatest drop in body temperature was no more than four-fifths of a degree F. The bacterial content of a properly conditioned operating room tends to be lower than the nonconditioned, but sterility has yet to be reached as indicated by additional investigations recently completed. The experimental operating and recovery rooms in Elizabeth Steel Magee Hospital, Pittsburgh, have proved very beneficial in verifying these points just mentioned (Fig. 2).

Since there is no evidence to show that air conditioning plays any part in the prevention or causation of operating room explosions, the problem was investigated by the Department of Industrial Hygiene, School of Medicine, University of Pittsburgh, the U. S. Bureau of

Mines, the American Society of Heating and Ventilating Engineers, and St. Francis Hospital. It was definitely shown that the addition of helium to an anesthetic mixture in proper proportions has prevented explosions by keeping the percentages of gases for anesthetic purposes outside the explosive range. Further developments will justify the wisdom of this excellent series of experiments.

Further advantages of the recovery room are offered to the hyperthyroid patient who is ordinarily a poor risk but considerably worse in hot weather. Preoperative care of such a case should include residence in a controlled room prior to operation so that the excessive heat produced by increased metabolism may be dissipated into the environment. We believe that postoperative respiratory infections might be prevented if we can avoid moving the patient through various conditions, such as drafty corridors and elevators. Should it be necessary to operate on the allergic patient who suffers from extrinsic allergens, the

recovery room with its methods of air cleaning would greatly aid in removing much of the risk involved.

Since 65 per cent of infant mortality occurs in the first few weeks after premature birth, it is obvious that more care should be given to this branch of medicine. The heat regulatory mechanism is not fully developed, and unless some means of maintaining desirable conditions are furnished, the body temperature of the infant may fall and result in serious complications and even death. The full-term infant, on the other hand, usually has subcutaneous fat which acts as an insulator and reduces heat dissipation, and maintains normal body temperature by greater heat production. It has been shown that a relative humidity of 65 per cent and a dry bulb temperature of 77 F. are optimum for the premature infant to prevent loss of body weight. In some cases it is necessary to raise the dry bulb temperature from 77 to 100 F. depending upon the weight loss and the general condition of the premature; but this additional heat will cause no change in the relative humidity of the total conditioned space. From a comparative standpoint the weight loss in the first 4 days of life is 12.4 per cent of the birth weight in an ordinary nursery and 6 per cent in the conditioned

nursery. In addition, the number of days required to regain the birth weight is considerably less in the conditioned than in the nonconditioned nursery. One may conclude, therefore, that the premature infant has a better survival rate in controlled atmospheric conditions than in the ordinary nurseries.

The knowledge of the relationship of humans to their surroundings has been instrumental in the development of fever therapy in its present form. As far back as 1923 W. J. McConnell and F. C. Houghten investigated the physiologic effects of saturated environments and were able to demonstrate that a rise in body temperature quickly resulted from this procedure. These experiments were air conditioning in nature and were probably the forerunners of many others that followed. In the present-day fever machines the all-important factor is the high relative humidity or even saturation, because it follows most closely the physical laws of heat loss and heat gain. As an example, Walter M. Simpson has shown that an environment with a dry bulb temperature of 130 to 150 F. and a relative humidity of 35 to 50 per cent will produce a rise in body temperature to 105 F. in from 40 to 60 minutes, while Houghten, the author, and Gutberlet have shown that in the presence of satura-

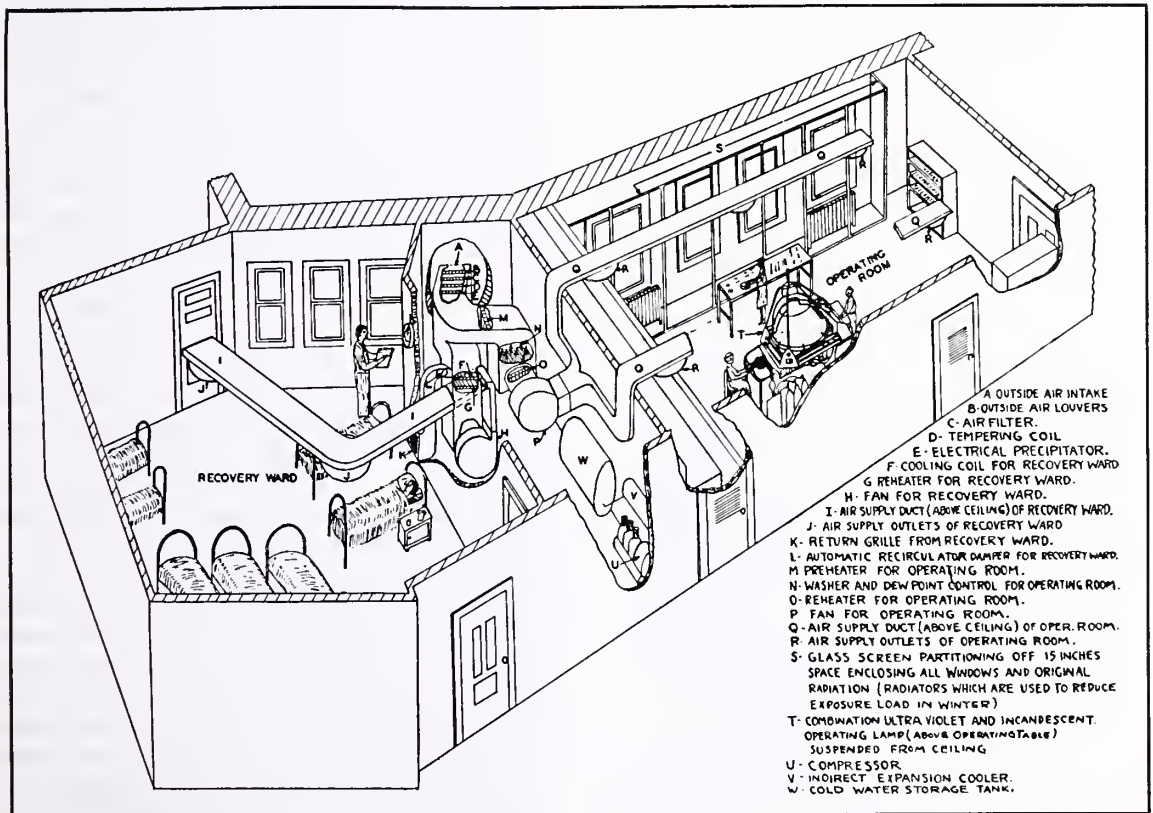


Fig. 2. Diagrammatic sketch of operating room, recovery ward, and air-conditioning apparatus (reprinted by courtesy of the American Society of Heating and Ventilating Engineers).

tion the same rise in body temperature will occur in the same time with an approximate dry bulb temperature of 113 F. The human body attempts to maintain its own temperature and its own balance between heat produced and heat lost by dissipating sufficient heat over and above its own metabolic requirements. If we try to raise the body temperature with dry heat, the human mechanism will attempt to throw off additional heat; but to produce a hyperpyrexia, it would be necessary to increase the heat source sufficiently high to overcome the heat loss from the body. In raising this dry bulb temperature so high, the possibility of burns is great and many have occurred during the experimental period of fever therapy research. On the other hand, saturation will prevent heat loss from the body since wet surroundings cannot take up additional moisture from the skin. It is obvious that the body must retain the heat which it produces and thus there will be an elevation of temperature. As the body temperature increases, so does the metabolism or heat produced, and the result is a rapidly increasing temperature. The dry bulb temperature is lower and the danger of burns is almost entirely eliminated. Even with electrically induced (short-wave, diathermy) hyperthermia, the body temperature is maintained in a saturated environment after the electrical source has been removed. Following the same lines of physiologic reasoning an apparatus for producing heat in any portion of the body was designed (Fig. 3). The uses for this apparatus are the same as any other heat-producing machine except that it has been definitely shown that the length of treatment must be considerably longer in order to produce the desired changes of hyperemia and deep temperatures.

Since saturated air is the most desirable form of heat in both the large and small units, it can be produced by an air-conditioning principle of the dewpoint apparatus, which is simply a method of saturating the air at the temperature of the water. In other words, saturation can be produced at any desired temperature although one must remember that low-temperature air will not carry the same amount of moisture as air with a high dry bulb temperature. By using the hot and cold water systems of any institutions, or by recirculating the water, the saturated environment can be produced.

An unusual application of air conditioning may be found in cooling the human body for the treatment of neoplastic lesions. Refrigeration is applied locally to the lesion by passing chilled water of about 40 F. or brine solution

through an apparatus to fit the structures treated. Artificial hibernation, on the other hand, consists of complete exposure of the body to low temperatures of about 50 to 60 F. by air-conditioning methods. In direct contrast to fever therapy, the metabolic rate is reduced to a negligible figure and body function is arrested. The temperature of the human is lowered to around 90 F. for 72 hours or more, and it has been reported that there is a shrinking of the metastatic lesions.

Since this report deals with conditions of air, whether artificially controlled or as they naturally exist, some mention should be made of the exposure of humans to hot atmospheres for other than therapeutic purposes. It is unnecessary to describe the advances made in establishing chlorides and glucose as important measures to prevent illnesses due to high temperatures, except heat retention (heat stroke, sun stroke). The latter is primarily a neurologic defect based on a disproportion between heat production and heat dissipation. Experimental evidence has shown that workers doing moderate labor of about 76 calories per square meter per hour may be exposed to high effective temperatures of about 87.5 F., resulting in a body temperature elevation of $\frac{1}{2}$ to $1\frac{1}{2}$ degrees, 10 to 15 heart beats' increase per minute, and about 2000 white cell increase. This effective temperature would correspond to about 100 F. dry bulb temperature, 84 F. wet bulb, and a relative humidity of 30 to 60 per cent. The interesting fact is that this response varies for different times of the year, and the increases are greater in the cool months than in the hot months. This may be further illustrated by pointing out that if responses to physiologic reactions are different for the various seasons, then perhaps we may have some explanation as to why a patient suffering from pneumonia in the hot months of the year is considered a greater risk than during the cooler months despite the fact that the same procedures including chemotherapy, serum, oxygen, etc., are used. When the effective temperature rises to 92 degrees or higher, the physiologic changes are more violent and temperatures will rise even higher than 2 degrees and pulse rates will increase as much as 50 beats, irrespective of the seasons of the year. We speak of the former condition as "acclimatization" of the body to its physical surroundings. Further deductions might explain this phenomenon as resulting from the effect of fatigue or exhaustion in the hotter seasons on the temperature regulatory and hemopoietic systems. In the cooler months, after exposure to hot environments, there is no continu-

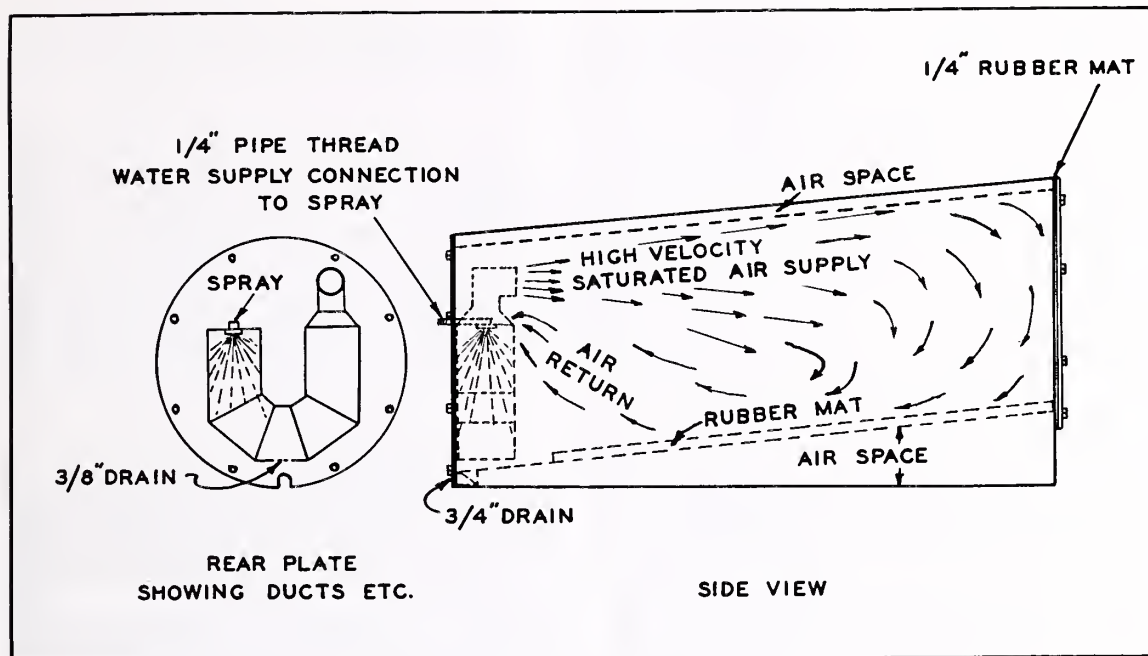


Fig. 3. Apparatus for producing saturated heat.

ation of stimuli to these 2 systems after removal from a hot to a cool atmosphere. If one accepts this hypothesis, it is not difficult to understand why a typical disease like pneumonia might have a high mortality in the hotter climates of the world, although the incidence may be lower.

Most able clinicians include oxygen therapy as a routine measure in treating pneumonia, cardiac ailments, postoperative pulmonary complications, asphyxia, asthma, etc. The knowledge of simple air-conditioning facts is invaluable for proper administration of this valuable gas. It may be given by nasal catheter at a rate of 4 to 5 liters per minute and is the least costly and more easily available to the practitioner. This should be passed through water for humidification to prevent irritation or drying of the mucosa, and oxygen concentrations as high as 45 per cent have been reported in the nasopharynx. A more desirable method is the oxygen tent which covers the greater portion of the patient's body where conditions of about 65 F. dry bulb, 50 per cent or less relative humidity, 50 per cent or more oxygen, and less than 1 per cent CO₂ are maintained. The simple mechanical features include an ice box, motor, and blower, which carries the cooled humidified air from the ice chest to the patient and recirculates it over the ice to condense out the moisture. A more expensive method is the oxygen chamber which has all the advantages of a tent except expensive construction and maintenance.

The use of devices for removing offending

allergens from the air has materially aided the allergic patient. The method of filtration and cleansing may be carried out by any one of the devices available, including air washers, cloth filters, maintaining positive pressure within the room, or by high-voltage electrostatic precipitators. The latter is a device designed to supply and clean a specified quantity of air per hour, and the chief virtue of this method is the removal of the extremely small particles from 15 to 20 microns and smaller. The conditions most suitable for the allergic patient include a temperature between 70 and 75 F. dry bulb, a relative humidity below 50 per cent, and the absence of drafts will do much to keep the patient more comfortable. The operating and recovery rooms previously described should be equipped with this and other cleaning devices in order to keep these rooms dust and pollen-free.

Summary

1. Air conditioning based on the effective temperature scale causes both physiologic changes and definite feelings of comfort in humans. In operating and recovery rooms controlled environments are beneficial to operating room personnel and to patients in preventing excessive fatigue and drop in body temperature in the latter. Air conditioning has reduced the bacterial content of an operating room, but sterility of the air has not been obtained by these means.

2. A relative humidity of 65 per cent and a dry bulb temperature of from 77 to 100 F. in nurseries have reduced the physiologic weight

loss of prematures in the first 4 days of life from 12.4 per cent of the birth weight in an ordinary nursery to 6 per cent in a conditioned nursery. The number of days required to regain the birth weight is less in a nursery where the environment is controlled, and the survival rate, therefore, is much higher.

3. Production of fever in either a part or the whole body is facilitated in a saturated atmosphere to give safer but more prolonged treatment periods.

4. The exposure of persons to high temperatures for other than therapeutic purposes pro-

duces an elevation of body temperature, an increase in pulse rate, and a white blood cell increase in effective temperatures from 84 to 92 F.

5. A dry bulb temperature of 65 F. and 50 per cent relative humidity are the optimum conditions for an oxygen tent where the oxygen concentration is 50 per cent or more.

6. The allergic patient requires 75 F. dry bulb temperature and a relative humidity of 50 per cent or lower in addition to an efficient air cleaner which will remove offending particles of 15 to 20 microns or smaller.

JOURNAL OUTLINES ACTIVITIES OF MEDICAL INDUCTION BOARDS

"Already young men have registered for selective service, the drawings will soon occur, and the young men will be called by local draft boards previous to their call for attendance at induction stations," *The Journal of the American Medical Association* for Oct. 19 states.

"At each of these induction stations there is to be a board of medical examiners who will be responsible for determining whether or not young men will be actually assigned to camps and cantonments for training. During mobilization the usual flow of men will be from local selective service boards to induction stations for final examination and induction, then to reception centers for classification and other processing, then to the organizations, installations, or replacement centers in which they are to serve.

"The induction station serves the same purpose as the recruiting station does in times of voluntary enlistment. Therefore recruiting stations, augmented as required, will be used as induction stations. Corps area commanders are authorized to establish induction stations at any point in their areas. It has been estimated that from 9 to 12 induction stations for each corps area will be sufficient, including at least one in every state, which would make about 100 in all. In sparsely settled areas the induction station may consist of a number of physicians and army officers who will travel from place to place.

"In each of these inductions there will be provided ample space, light, and toilet facilities. During cold weather the rooms will be heated so that the young men who will be compelled to be nude during the examination will not suffer from cold. Special rooms will be provided for conducting eye, ear, nose, and throat examinations, and there must be a room with a sink and toilet facilities for use as a laboratory. Corps area commanders are also expected to furnish necessary equipment where that is not available.

"For the physical examination the procedure contemplates an 8-hour day with 25 men examined every hour. It is believed that it will be found practicable to admit one man to the examining team every 2 minutes. This will permit 10 minutes at the end of each hour for further examination and conferences on difficult cases. The order of the examination is as follows:

"1. Laboratory examination of the urine and, when required, of sputum, blood smears, and urethral discharges.

"2. Withdrawal of blood for the serologic test for syphilis. Blood specimen will be obtained and subsequently tested in federal or state laboratories by personnel assigned by the United States Public Health Service.

"3. Eye, ear, nose, throat, and dental examinations. Registrants may remain clothed up to this point if desirable. From here on they must be completely nude.

"4. Height, weight, and chest measurements and examination of the bones, joints, and feet. This may be done in one large or 2 small rooms. The room for the orthopedic examiner should be of sufficient size so that 4 examinees may be brought in at one time and put through the required movements.

"5. General surgical examination.

"6. Examination of heart and lungs, for which 3 rooms will be required, so situated that examiners will not be disturbed by outside noises.

"7. Neuropsychiatric examination.

"8. Checking of records by the chief of the examining board. At this time requests for roentgen-ray, laboratory, and other special examinations will be prepared and provision made when necessary for the examinee to be conducted to the proper army hospital or civilian institution for the examination. Arrangements for a local hospital or clinic to provide these facilities must be made by the chief of the board prior to beginning the examinations. In occasional instances protoscopic, electrocardiographic, and other special examinations may be required.

"As explained by Col. Albert G. Love in *The Journal*, Oct. 5, the specialists to be assigned to such service will probably include civilian specialists as well as reserve officers, who will be on temporary duty. Civilian physicians will be on a per diem basis and will be used as long as their services are required. It has been proposed that they be paid at the base pay of a major with allowances for travel and subsistence while on duty. Physicians preferred for this service are those who, on account either of age or of physical infirmities or because of reasons affecting their civil life, cannot go into military camp. It has been tentatively estimated that the time required for this service might approximate 20 to 30 days in the period between Oct. 16 and Feb. 1.

"In order to aid the Army Medical Department in securing physicians for this service, the Committee on Medical Preparedness requests physicians who wish to volunteer to write at once to the Committee on Medical Preparedness, 535 North Dearborn Street, Chicago, marking the envelop 'Induction Board.'"

PAINFUL SHOULDER

Diagnosis and Treatment

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IT IS the purpose of this paper to discuss the management of painful shoulders. The common fractures and dislocations and the lesions of the thoracic and abdominal viscera causing pain about the shoulder will not be considered.

Accurate diagnosis requires a clear conception of the function of the shoulder. The shoulder mechanism permits a wide range of motion. Two motions are typical, elevation and rotation. Normally, full elevation of the arm is a synchronization of several motions. The humerus rotates upward on the scapula and the scapula rotates on the chest wall so that the glenoid faces upward instead of outward (Figs. 1 and 2). Of less clinical importance are the rotatory motions at the acromioclavicular and sternoclavicular joints.

Elevation of the humerus on the scapula requires not only a functioning shoulder joint but also a smoothly functioning subacromial bursa (Fig. 1). During elevation the greater tuberosity slides beneath the acromion. This is a point of friction. Roughening or injury to the structures which form the floor or the roof of the bursa causes a hitch or hesitation in the smooth rhythm of elevation. Acute injury to these structures causes muscle spasm which fixes the humerus on the scapula. Adhesions between the bursal surfaces also limit humeroscapular motion.

Patients who have had a fusion of the shoulder joint or who have dense bursal adhesions can elevate the arm almost to the horizontal (Fig 2c). This is due entirely to rotation of the scapula on the chest, and is a factor of prime importance in estimating the mobility of the shoulder.

Examination of the Shoulder

The patient should be stripped to the waist, seated on a stool, and placed in a good light. The

2 shoulders are compared, front and back, for swelling and muscle atrophy. The affected shoulder is carefully palpated for tenderness over the head of the humerus and the greater tuberosity, tenderness over the pectoralis, trapezius, and scapular muscles. The scalenus muscle mass at the base of the neck behind the sternomastoid is also palpated. The patient is then requested to elevate both arms as high as possible so that limitation of elevation or a hitch in motion may be seen. When elevation is limited, it is important to determine how much of this limitation is due to lost humeral motion. For this purpose the examiner presses the acromion downward to exclude scapular rotation and then requests the patient to elevate the arm (Fig. 2). Normally it can be brought to the horizontal. Another important test is comparison of passive elevation with active elevation.

A very helpful classification of shoulder lesions for diagnosis is based on the history. There are 3 main groups:

- A. Acute traumatic lesions.
 1. Acute traumatic subacromial bursitis.
 2. Acute traumatic myositis and tendinitis.
 3. Rupture of visible muscles—deltoid, biceps, triceps, and others.
 4. Traumatic dislocation of the tendon of the long head of the biceps.
 5. Rupture of the insertion of the short rotators, mainly the supraspinatus.
- B. Late posttraumatic lesions.
 1. Subacromial bursitis with adhesions (frozen shoulder).
 2. Scalenus syndrome.
- C. Shoulder pain without a history of acute trauma.
 1. Narrowing of intervertebral foramina with radiculitis.
 2. Cervical rib.
 3. Scalenus syndrome.

Read before the Section on Surgery of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 3, 1940.
From the Surgical Outpatient Department, Hospital of the University of Pennsylvania, and from the Mount Sinai Hospital, Philadelphia, Pa.

TABLE I
ACUTE TRAUMATIC LESIONS ABOUT THE SHOULDER

<i>Diagnosis</i>	<i>History</i>	<i>Appearance</i>	<i>Tenderness</i>	<i>Findings</i>	<i>Active Motion</i>	<i>Passive Motion</i>	<i>Additional Notes</i>	<i>Treatment</i>
Acute traumatic sub-acromial bursitis	Falls on the hand and forearm. Direct violence over outer side of shoulder	May be swelling in area of bursa	Acute diffuse in bursal area	Restricted and painful due to muscle spasm	Restricted and painful due to muscle spasm	May be resisted because of pain and muscle spasm	Fractures, reduced dislocations, muscle and tendon injuries must be excluded to make this diagnosis	Aspiration of bursa, procaine injection, 5 to 10 c.c. of 1 per cent solution, a thick axillary pad with a sling and swath dressing to maintain moderate abduction. Ice bags, stooping exercises (Fig. 5), and active use as soon as acute symptoms subside—3 to 5 days—to avoid adhesions
Acute traumatic myositis and tendinitis	Falls and twisting injuries which suddenly overstretch muscles	Not characteristic	Over the affected muscles—trapezius rhomboids, scalenus anticus, deltoid, and pectoralis	Restricted and painful in the direction which requires the affected muscle to contract, and in the direction which stretches the muscle	Restricted and painful in the direction which stretches the affected muscle	Resisted in the direction which stretches the affected muscle	The bicipital groove should be palpated for tenderness of the long biceps tendon	Procaine injection, 10 c.c. of 1 per cent solution or more into each tender point. Adhesive strapping to immobilize in relaxed position. Ice bags for 24 to 48 hours. Active use as soon as acute symptoms subside. Home physiotherapy—hot water bottle over painful area for 15 minutes, massage for 5 minutes with 10 per cent methyl salicylate in petrolatum. Procaine injection may be repeated at areas of persistent tenderness
Rupture of visible muscles: deltoid, biceps, triceps, and others	Sudden overstretching of contracted muscle	Characteristic striking bulge of muscle belly when the muscle is made to contract	Variable, at site of rupture	Loss of power of affected muscle	No limitation	Rare injury	Surgical repair of the involved muscle	
Traumatic dislocation of tendon of long head of biceps	Violent exertion, flexing forearm, or a fall with forcible external rotation; later a cracking or snapping is felt in shoulder on abduction-external rotation	Swelling of shoulder early, later atrophy	Over bicipital groove	Restricted and painful elevation. Elevation in external rotation may produce a "snap" over anterior aspect of joint	May be unimpaired or there may be a painful resistance to full elevation	May be associated with rupture of supraspinatus tendon	Operation: fixation of tendon in bicipital groove or repair of aponeurotic covering of groove	
Rupture of the insertion of the short rotators, mainly the supraspinatus	Fall or twist with adduction of abducted arm or backward flexion	Swelling of shoulder	Very acute over greater tuberosity with arm adducted	a. Extensive lacerations: inability to initiate elevation, but ability to complete it after arm is passively elevated to 90° b. Small lacerations: loss of power, hitch and pain when lacerated area passes beneath acromion	May be unimpaired but painful, or may be limited by pain	May be a palpable tender sulcus above greater tuberosity, crepitus on elevation. Patient can control descent of arm from vertical elevation to 90°, then there is an uncontrolled drop. These signs are variable.	If diagnosis is clear: operation for repair of extensive laceration. If in doubt, abduction splint for one week until acute symptoms subside and reevaluation of the case. When small lacerations are suspected: abduction dressing for 3 to 4 weeks. Operation for persistent symptoms.	

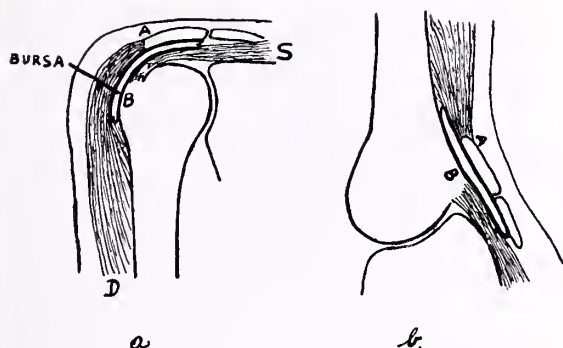


Fig. 1. (After E. A. Codman.) Diagrammatic coronal section of the shoulder with the arm at the side (a) and with the arm fully elevated (b). The deltoid (D) and the acromion (A) form the roof of the bursa. The greater tuberosity (B) and the supraspinatus (S) form the floor of the bursa. In elevation (b) the point B has passed beneath the point A. In (a), if the bursal surfaces between A and B were adherent, the arm could not be elevated to the position shown in (b).

4. Subacromial bursitis with adhesions.
5. Calcareous tendinitis.
 - a. Acute.
 - b. Mild chronic.
6. Chronic subacromial bursitis without adhesions.

A. Acute traumatic lesions.

1. Acute subacromial bursitis.

(a) During every fall on the hand and shoulder the head of the humerus is driven against the

acromion and coraco-acromial ligament, and the subacromial bursa may be injured. (b) Since the fused tendons of the short rotator muscles and the tuberosities form the floor of the bursa, injury to these structures is manifested by an acute bursitis if by no other signs. (c) Extensive damage to the bursal surfaces occurs in fractures and dislocations.

Injury to the bursal surfaces is important because of its sequelae. If the arm is held at the side for a sufficient length of time, dense adhesions form between the apposed surfaces and limit humeroscapular motion.

It is therefore of the utmost importance to begin motion at the shoulder as soon as the acute symptoms subside. The stooping exercises (Fig. 3) make use of gravity and permit a wide range of motion with very little muscular exertion and pain.

2. Acute traumatic myositis and tendinitis.

The origins and insertions of the muscles about the shoulder may be injured by twisting and straining. The traditional baking and massage method of treatment is inferior to the program outlined above. Neglect of early exercise, protracted use of a sling, and dependence on diathermy machines lead to muscular contractions and persistent fibrositis and are the causes of prolonged disability.

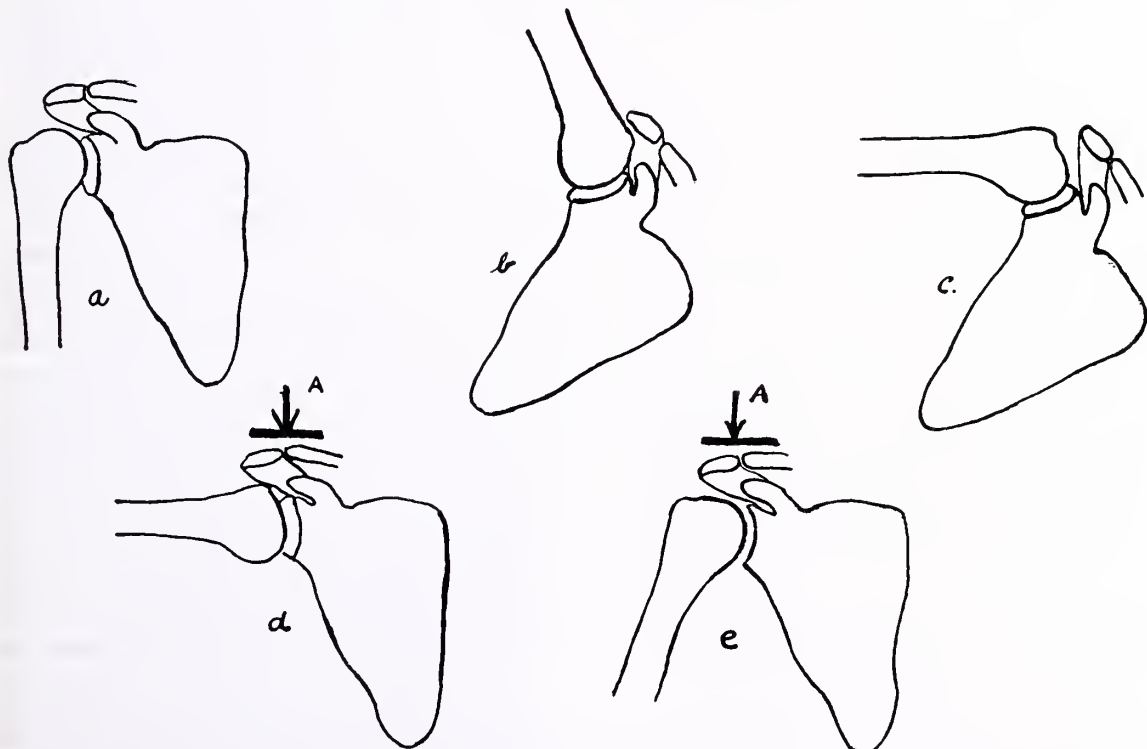


Fig. 2. (a) shows the arm at the side and (b) shows it fully elevated. The scapula has rotated and the greater tuberosity has passed beneath the acromion. (c) shows what takes place when the bursal surfaces become adherent: the humerus has rotated very slightly on the scapula, and the elevation is due almost entirely to scapular rotation. (d) shows the normal limit of elevation when the scapula is prevented from rotating by downward pressure on the acromion. (e) indicates the limit of elevation when the scapula is prevented from rotating as in (c) when the bursal surfaces are adherent.

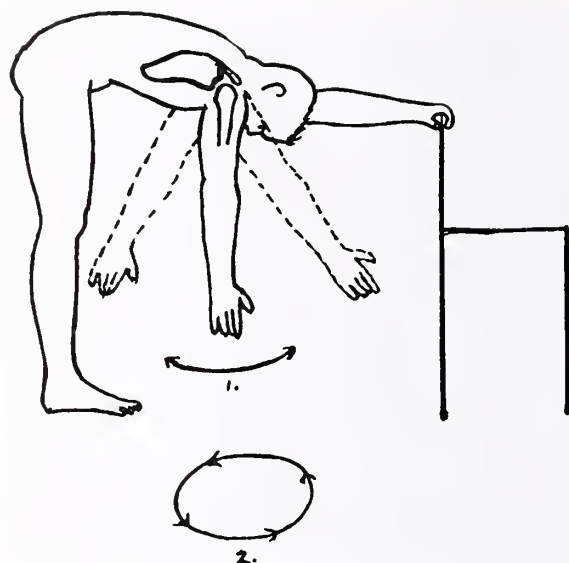


Fig. 3. Stopping exercises (after Codman). The weight of the arm brings it into the equivalent of 90° of elevation. Little exertion is required. Exercise 1—pendulum motion. Exercise 2—circular motion.

Two obscure lesions deserve special mention. (a) Traumatic tendinitis of the long head of the biceps causes localized pain over the shoulder anteriorly and pain on elevation of the arm, associated with tenderness over the bicipital groove. Procaine injection is especially helpful in this condition. (b) An acute traumatic myositis of the scalenus anticus occurs occasionally. There is pain over the shoulder radiating down the arm, some discomfort on elevation of the arm, with variable restriction of motion, and well-marked tenderness over the scalenus muscle mass behind and lateral to the lower fourth of the sternomastoid. Dramatic relief of symptoms follows infiltration of the muscle with 10 c.c. of 1 per cent procaine solution (Fig. 4). The injection may be repeated if necessary.

3. Rupture of visible muscles about the shoulder.

These injuries are rare, but when present are not benefited by any form of conservative treatment. Operation should be performed. Rupture of the tendon of the long head of the biceps is the most common of the group.

4. Dislocation of the tendon of the long head of the biceps.

This injury is infrequent but disabling. Abbott and Saunders recently reported 6 cases and described the operative technic.

5. Rupture of the insertion of the short rotators, mainly the supraspinatus.

When the laceration is very small, the findings are those of an acute subacromial bursitis. However, pain at the shoulder is likely to be persistent, and there is a hitch or an irregularity

in the rhythm of elevation, accompanied by pain and persistent tenderness. Loss of power is apt to parallel the extent of the tear. Immobilization in abduction for a few weeks deserves trial. Persistent symptoms and disability are an indication for operation.

Extensive lacerations result in extreme disability. Conservative treatment is useless. In occasional cases, great pain, swelling, and muscle spasm make evaluation difficult. There is no harm in giving conservative treatment (abduction splint, rest, ice bags for 24 to 48 hours) for a week or so until the acute symptoms subside. Reevaluation of the disability is then quite helpful.

B. Late Posttraumatic Lesions.

1. Subacromial bursitis with adhesions.

It has been indicated that this condition may follow simple acute bursitis. Very frequently, also, the injured bursal surfaces become adherent after fractures, dislocations, ruptures of the short rotator tendons, and injuries to the biceps tendon. In addition, any injury to the shoulder, even without bursal injury, which causes pain on motion and in which the arm is kept at the side without exercises for a few weeks may be complicated by bursal adhesions. This is particularly likely to occur in the elderly in whom prior attritional changes (fraying out of the short rotator and biceps tendons) may have been present as described by A. W. Meyer.

Thus the clinical picture of bursitis with adhesions may, after a few weeks, be superimposed on the picture of the acute lesions already described. It is obvious that accurate diagnosis becomes extremely difficult.

The well-advanced clinical picture of post-traumatic bursitis with adhesions is typical. The pain of injury subsides after a week or two and is replaced by ill-defined pain over the shoulder radiating to the insertion of the deltoid, to the elbow, or to the wrist and fingers, which becomes progressively more severe. We have found that this radiating pain often can be temporarily relieved by injecting the scalenus anticus muscle with procaine, thus indicating that irritation of the brachial plexus by scalenus spasm is a factor.

Examination usually discloses atrophy of the spinatus, deltoid, and arm muscles (Fig. 5), often associated with vasospastic phenomena such as coldness and stiffness of the hand and a glossy atrophic skin. Sympathetic irritation and vasospasm may be responsible in part for the pain as well. The bursal area is quite tender.

Active elevation of the arm is strikingly limited and painful, usually a little less or more

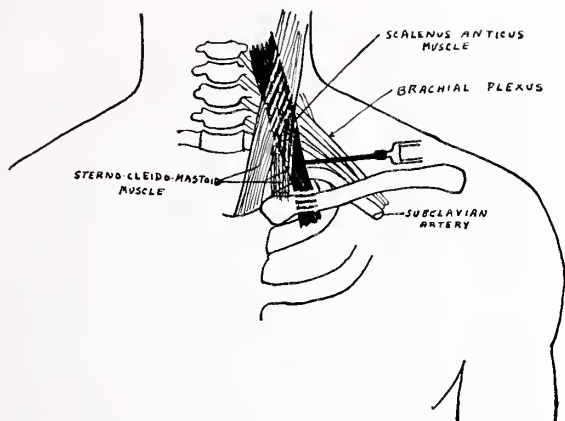


Fig. 4. The scalenus anticus muscle is shown lying beneath the sternal and clavicular heads of the sternocleidomastoid muscle. The scalenus anticus lies on the brachial plexus. When the muscle goes into spasm, it can press on the plexus and cause a mechanical neuritis. It may also elevate the first rib on which the plexus lies and cause the rib to press on the plexus. The muscle may be temporarily relaxed by infiltrating it with procaine solution. The patient sits erect with the head turned to the opposite side. The index finger of the left hand finds the clavicular head of the sternocleidomastoid (see Fig. 5) and presses it medially. The needle is held horizontally and inserted one inch above the clavicle, just at the lateral edge of the sternocleidomastoid, and is pushed backward and somewhat medially for 2 to 3 cm. After aspirating to make sure that the needle point does not lie in a vessel, the infiltration is begun. The muscle is infiltrated just above and below this point. Aspiration is performed when the position of the needle is changed. In many instances a Horner's syndrome appears (contracted pupil, enophthalmos, dilated conjunctival vessels, and lacrimation) and lasts for about an hour. The arm may become warmer. (L. Kaplan, modified from M. Gage; see footnote.)

than 90° (Fig. 2c). If the scapula is prevented from rotating, the patient can abduct the arm only 10° to 30° (Fig. 2e). Bursal adhesions are to be prevented after shoulder and arm injuries by stooping exercises and early active use. Internal and external rotation also become greatly restricted.

The treatment of the condition varies with the nature of the original injury, the severity of symptoms, and the degree of restriction of motion.

When bursal adhesions are superimposed on a lesion requiring operation through the area of the bursa, the adhesions may be separated at operation and the arm kept in abduction until healing is adequate. When the splint is removed, the weight of gravity will separate the adhesions and adequate exercises as described below will restore function.

When the adhesions are not superimposed on a primary condition requiring operation, treatment is directed toward separating the adhesions and restoring normal motion. Until this is accomplished no permanent relief of pain is to be expected.

When the symptoms are mild and motion is only moderately restricted, stooping exercises (Fig. 3) and wall-climbing exercises for 5 minutes, 3 to 5 times daily, followed by a brisk

rub with liniment or methyl salicylate ointment, are prescribed. The patient is advised to use the arm as much as possible and to sleep with the arm above the head. Salicylates and barbiturates should be given in large doses at first.

When the condition is advanced, with marked restriction of motion and severe pain, the adhesions must be separated by manipulation under local or general anesthesia. If local anesthesia is used, the bursal space and the front and back of the shoulder should be well infiltrated with solution. A large preliminary dose of morphine or a barbiturate is very helpful. The humerus is slowly and gently brought to full elevation. Snapping sounds indicate rupture of adhesions. Internal and external rotation are then carried to their full range. If the condition is of long duration, considerable bony atrophy may have occurred. Unless care is exercised, the humerus or the clavicle may be fractured. The patient is given opiates and salicylates after manipulation, and is required to begin stooping exercises and wall-climbing exercises within 24 hours even though they cause great pain. If the exercises are performed faithfully, a striking improvement occurs in a few days.

2. Scalenus syndrome (brachial plexus irritation by scalenus spasm).

Some patients appear for the first time a few weeks or months after an injury. They give a history of pain about the shoulder which has progressively increased in severity and which may radiate up the neck, over the scapula, or down the arm as far as the fingers, and which in exceptional instances is associated with diminished circulation in the extremity. Shoulder function shows little or no impairment. The only definite finding is likely to be tenderness over the scalenus anticus muscle. Droopy-shouldered individuals are most often affected.

Spasm or hypertrophy of the scalenus anticus causes the pain by direct pressure on the brachial plexus or by elevating the first rib and angulating the plexus. When this condition is suspected, the patient can be tested by infiltrating the scalenus with 10 c.c. of 1 per cent procaine solution (Fig. 4). There should be immediate relief of pain.

We have found certain measures of value in treatment. Improvement of posture and corrective exercises are helpful. Repeated injections of procaine solution into the muscle are of considerable value and give prolonged and often quite lasting relief. If the symptoms persist, section of the scalenus anticus is advisable.

TABLE II
SHOULDER PAIN WITHOUT A HISTORY OF ACUTE TRAUMA

Diagnosis	Findings				Treatment
	History	Appearance	Tenderness	Active Motion	Passive Motion
Narrowing of intervertebral foramina with radiculitis	Progressively increasing severe pain in brachial distribution	No characteristic	May be present over cervical spine	No change	No change
Cervical rib	Progressively increasing pain in the brachial distribution; may have circulatory disturbance	No characteristic	May be present over side of neck	No change	No change
Scalenus syndrome	As for cervical rib. May have circulatory disturbance. Many cases give history of injury	May have very droopy shoulders	Over scalenus anticus	Little or no change	Little or no change
Subacromial bursitis with adhesions	May or may not be a history of injury	Atrophy of spinati, deltoid, and arm muscles. May be glossy skin and stiff hand	Over bursa and often over scalenus anticus	Marked restriction, especially when scapular rotation is prevented	Similar to active motion
Calcareaous tendinitis (acute)	Sudden onset of progressively severe pain without injury or after trifling trauma	Arm held fixed by muscle spasm	Acute, above greater tuberosity	Marked restriction, and severe pain	Marked restriction by muscle spasm
Calcareaous tendinitis (mild chronic)	Very gradual onset of mild pain on motion	No change	Moderate, over greater tuberosity	May be a hitch on elevation	No change
Chronic bursitis without adhesions (due to bony excrescences, villi, or bands in bursa)	Gradual onset of mild pain on motion	No change	Mild, over bursa	Hitch on elevation	No change

Additional Notes

Diagnosis must be made by oblique films of cervical spine. Scalenus injection does not affect the pain

Diagnosis of cervical rib by roentgen ray. Scalenus injection gives temporary relief of pain

Roentgen ray negative. Scalenus injection gives temporary relief of pain

Roentgen ray may show inflammatory changes about greater tuberosity

Roentgen ray shows a large calcareous deposit usually above greater tuberosity

Very small calcareous deposit

Roentgen ray may show bony excrescence on greater tuberosity or acromion

Orthopedic or neurosurgical

Excision of rib and division of scalenus, or division of scalenus only

Postural exercises. Repeated procaine injections. Division of scalenus if necessary.

Separation of adhesions by exercises, manipulation, or both

Injection and aspiration or irrigation. Operation gives dramatic relief. Roentgen therapy sometimes helps.

Active use. Roentgen-ray treatment of doubtful value. Operation not indicated as a rule.

Active use. Operation for persistent symptoms.

C. Shoulder Pain without a History of Acute Trauma.

1. Narrowing of the intervertebral foramina with radiculitis.

This condition occurs in elderly patients who have hypertrophic changes in the cervical spine. The intervertebral foramina become narrowed and irritate the roots of the brachial plexus. Oblique roentgen-ray films of the cervical spine show typical narrowing of the foramina in a shape suggesting the figure 8. The condition simulates very closely the cervical rib syndrome and the scalenus syndrome without a history of injury. It may be suspected when procaine infiltration of the scalenus anticus does not relieve the pain and the diagnosis may be verified by roentgen-ray films made in oblique position. The treatment is orthopedic or neurosurgical.

2. Cervical rib.

3. Scalenus syndrome without a history of injury.

These conditions are characterized by pain in part of or in the whole brachial distribution. Cervical rib must be excluded only by roentgen-ray examination; when present, it requires operation. The scalenus syndrome without trauma is treated in the same manner as the posttraumatic syndrome previously described.

4. Subacromial bursitis with adhesions.

This may occur without a history of trauma in elderly individuals. It is particularly likely to begin in an elderly patient who is very ill and confined to bed for a protracted time. During this period the bursal surfaces, which may have become roughened by years of wear, agglutinate and become adherent. The patient begins to complain of shoulder pain without obvious cause, and examination will often disclose beginning limitation of motion.

The treatment is similar to that described for posttraumatic bursal adhesions.

5. Calcareous tendinitis (peritendinitis calcarea).

a. Acute. Calcareous deposits occur most frequently in the supraspinatus tendon just above the greater tuberosity or in the other short rotator tendons and not primarily in the overlying bursa. The deposits may cause no symptoms, very mild chronic symptoms, or severe acute symptoms.

In the acute severe form, symptoms are due to an inflammatory reaction about the deposit with increased local tension. In rare instances the area may rupture into the bursa with spontaneous relief of symptoms.

The most dramatic relief of symptoms may be obtained by introducing a large bore needle

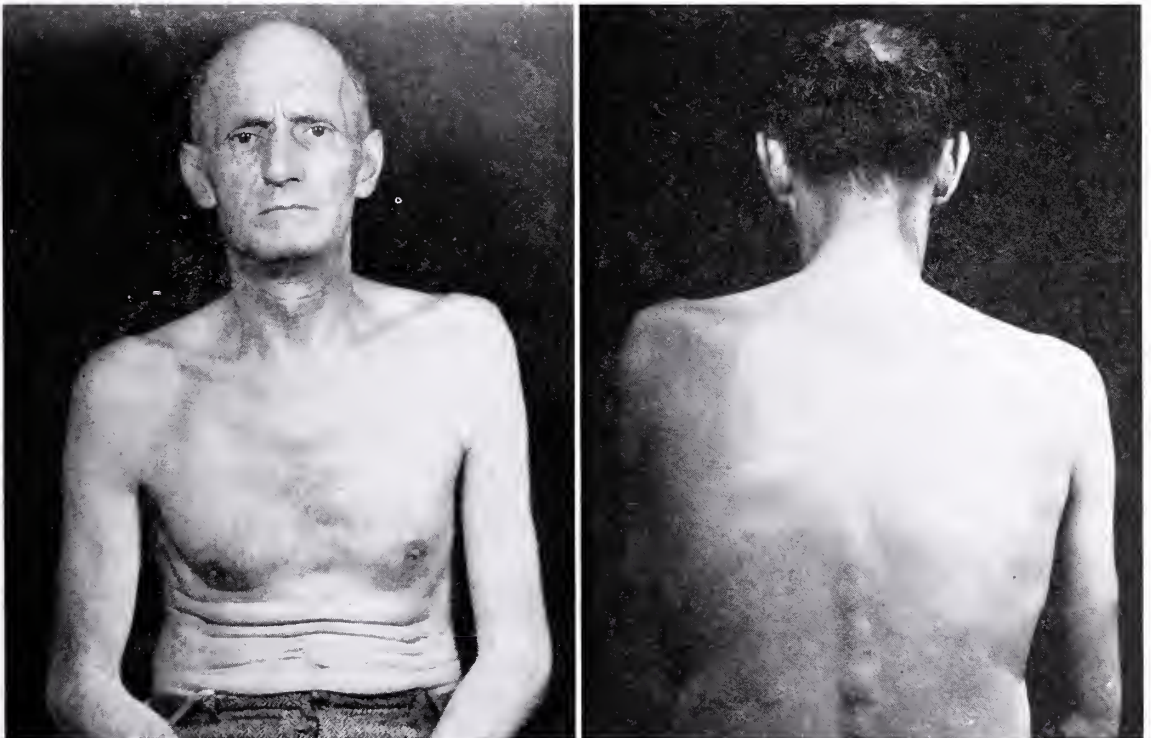


Fig. 5. A and B. Subacromial bursitis with adhesions. This patient had a fracture of the greater tuberosity of the left humerus, in good position except for some roughening of the contour. The arm was held at the side for 4 weeks without motion. A shows the atrophy of the deltoid and the spasm of the trapezius. B shows the atrophy of the supraspinatus and infraspinatus. A shows also the contour of the sternal and clavicular heads of the sternocleidomastoid (compare with Fig. 4).

(16 or 18 gauge) into the deposit under local anesthesia. Injection of procaine and aspiration of the deposit give prompt relief. Multiple needle punctures alone may be adequate since symptoms appear to be based mainly on increased tension. We have had good results from Smith-Petersen's method. Two large needles are introduced into the area. Procaine solution is injected through one needle and it runs out through the other bringing the calcareous material with it. All of the methods just described depend on accurate introduction of a needle into the calcified area. If the area cannot be entered, roentgen therapy may be tried, or immediate operation may be performed. Roentgen therapy gives relief in 24 to 48 hours when it is effective at all. If severe symptoms persist longer than this, operation is advisable. The bursa is opened by an incision through the deltoid anteriorly, and the inflamed calcareous area in the floor of the bursa is identified and evacuated. There is immediate and dramatic relief of symptoms. Active motion should be started in 24 to 48 hours to prevent bursal adhesions.

b. Mild chronic. It has been noted previously that calcareous tendinitis may cause mild symptoms. In these cases the deposit is apt to be small and dense, and it causes symptoms by producing some roughening of the floor of the bursa. The clinical findings are similar to those described below for chronic bursitis without adhesions. These cases are best treated by a program of exercises. Heat and massage at home twice daily help to prevent stiffness. The condition usually subsides in 2 or 3 months. Operation in these cases has not given good results.

6. Chronic bursitis without adhesions.

These cases are characterized by mild pain on motion and difficulty in elevation, although the total range of motion may be only slightly or moderately restricted. The common cause is roughening of the floor or roof of the bursa due to a calcified deposit in the short rotator tendons, bony excrescences on the greater tuberosity or the tip of the acromion, or villi and bands in the bursa. The diagnosis of deposits or excrescences can be made only by roentgen ray.

Treatment depends on the severity and persistence of symptoms. Active exercises and active use must be continued to prevent bursal adhesions. Heat and massage at home twice daily may be helpful. If the symptoms do not abate in a reasonable length of time (3 to 6 weeks), the bursa should be explored.

A Note on the Diagnostic Value of Shoulder Pain

The pain of shoulder lesions may be well localized over the lesion, particularly in myositis, tendinitis, and rupture of the visible muscles. The pain of short rotator lesions is ill defined locally and apt to be referred to the insertion of the deltoid.

Our studies indicate that muscle spasm occurs frequently in many of the acutely painful lesions and that the scalenus anticus often participates in the spasm. It presses on the brachial plexus and causes pain over the whole shoulder, pain radiating to the insertion of the deltoid muscle or pain radiating to the elbow, wrist, or fingers.

The distribution of pain is in itself an unreliable guide to the location of the lesion.

A Note on the Diagnostic Value of Tenderness

Associated with the muscle spasm and the mechanical neuritis, there may be ill-defined tenderness in the distribution of the pain. This mild tenderness may be due to the neuritis or to the mild fibrositis induced by muscle spasm. In any event, it is confusing. The tenderness of a lesion is usually well localized and acute, and if sought for carefully, is very helpful in diagnosis.

Summary

Some of the common lesions of the shoulder are reviewed on the basis of our present conception of their etiology, diagnostic signs, and therapy.

The notes on the scalenus muscle and on the effects of procaine injections are taken from an original article by the author, "Observations on the Relationship of the Scalenus Anticus to Shoulder Pain," to be published in the *Archives of Surgery*.

ABSTRACT OF DISCUSSION

WILLIAM BATES (Philadelphia): Dr. Kaplan's paper shows a very comprehensive knowledge of and personal experience with shoulder afflictions. Anyone treating shoulder injuries will look forward to reading this article when it is published, and I dare say rereading it.

In contradistinction to Dr. Kaplan's carefully prepared classifications, I usually want to know if the condition is traumatic, acute, or chronic, and whether nerve, muscle, tendon, bursa, or joint is the main offender.

To estimate how much motion occurs in the shoulder joint when the arm is abducted, I find that by sitting or standing on the side opposite the patient, and clasping my hands below the axilla, I can control the motion of the scapula. It is a simple test which gives a great deal of information very promptly.

I have never opened a subacromial bursa and found either pus or adhesions present. Some years ago the late J. B. Carnett, M.D., referred to subacromial bursitis as so-called bursitis, and called attention to the fact that

the pathology was in the tendon of the supraspinatus and not in the bursa. Of course, he was speaking of the acute condition. However, a tear in the supraspinatus may not be something that is limited to the supraspinatus; because of the fusion of structures to envelop the shoulder, it might be better to think of it as a tear in the musculotendinous cuff of the shoulder.

In speaking of the scalenus syndrome, Dr. Kaplan attributes the pain to pressure, either direct or indirect, on the brachial plexus. In 2 recent cases showing the vascular changes so frequently seen in this condition, we found direct arterial pressure causing marked compression, which completely disappeared on severing the scalenus anticus.

The use of novocain injections for differential diagnosis is certainly concurred in, but repeated injections have an element of danger in that further scar tissue may develop and even cause damage to the sympathetic nerve from too deep an injection. As the operation carries no risk, I personally prefer it to repeated injections and slight scarring.

I am interested to hear again of relief given by washing out the calcareous deposits by means of novocain through a large-bore needle. Each time I am stimulated to try it again, but so far have never, either with or without the help of a fluoroscope, been able to wash out the calcareous material. Relief is afforded in some of our cases by the novocain and the perforations we make, giving relief from the tension.

In the acute so-called bursitis cases, we resort to immediate operation in the male if we can get his consent, and I must say that the answer is usually "How soon?" Likewise in women whose economic position is such that a scar is not a factor—for a deltoid scar is never attractive—we advocate early operation. In men who refuse operation, and in women who for one reason or another are not operated upon, heavy

sedation and elevation of the arm above the head, with the forearm tied to the head of the bed and head of bed elevated, usually produce relief sometimes within 48 hours. If not, operation is performed.

The various forms of nonoperative treatment, other than washing, have interested me, for I definitely doubt their ability to cause the absorption of deposit which follows their application. In the nonoperated cases the deposit will disappear in proportion to the severity of the pain during the acute attack. Frequently these people have nonsymptomatic deposits in the opposite shoulder. In no case have I known of diathermy, roentgen ray, cacodylate injections, etc., ever having caused the disappearance of a nonsymptomatic deposit. On the other hand, series of films may be shown where the rate of absorption of the deposits after an acute attack in the cases with no treatment is parallel to those in which many forms of nonoperative measures have been tried.

However, relief from pain is the immediate objective, and if these forms of therapy stop the pain, they are justified. I have seen cases in which one injection of 2 per cent novocain given to get the patient to the hospital has been sufficient to afford relief to the point where operation previously arranged for has had to be canceled. In milder cases I have had patients ask for roentgen rays because of a sense of relief following diagnostic roentgen rays. However, I still believe that the reaction set up by the cause of the severe pain has been the cause initiating absorption and not the adjunct treatment.

In the last part of his paper, Dr. Kaplan refers to the confusion which arises when the tenderness of neuritis is present. Let me add that the tenderness of neuralgia which is so frequently present is very confusing, and unfortunately its source is not always so easily found.

MORTALITY DATA OF PENNSYLVANIA PHYSICIANS

The following is a list of 24 physicians who died in Pennsylvania during the month of July, 1940:

<i>Name</i>	<i>Address</i>	<i>Age</i>	<i>Date of Death</i>	<i>Cause of Death</i>
Royal W. Bemis	Philadelphia	72	July 8	Coronary occlusion
William H. Berge	Scranton	71	" 14	Coronary thrombosis
Martin L. Bomberger	Harrisburg	30	" 7	Suicide by self-inflicted wound
Albert J. Britt	Philadelphia	67	" 26	Amvotrophic arteriosclerosis
Ellen E. Brown	Gratersford	91	" 29	Senility
John C. Cochran	St. Mary's	83	" 18	Cardiorenal disease
Simon P. Earnest	Delmont	74	" 11	Coronary thrombosis
Alexander Ferguson	Philadelphia	59	" 3	Arteriosclerosis
Irwin S. Flegal	Karthus	75	" 28	Coronary occlusion
Robert B. Gamble	Meadville	69	" 11	Arteriosclerosis
John R. Gillette	Philadelphia	73	" 15	Coronary thrombosis
Robert T. Grime	Philadelphia	80	" 5	Myocarditis
Oliver I. Hess	Scottdale	86	" 9	Fracture of skull
Rose Hirschler	Philadelphia	65	" 26	Leukemia
Ruth W. Lathrop	Philadelphia	78	" 31	Myocarditis
Wilhelm H. Lehner	Brentwood	80	" 21	Auricular fibrillation
Harvey D. Miller	Reading	68	" 31	Cerebral sclerosis
David C. Posey	Christiana	60	" 6	Coronary thrombosis
H. L. Ransom	Pittston	64	" 22	Atrophic cirrhosis of liver
Charles C. Rickerson	Philadelphia	63	" 28	Chronic myocarditis
Frank W. Seidel	West Reading	71	" 12	Coronary occlusion
Warren B. Shaner	Pottstown	80	" 15	Prostatic disease
J. Anson Singer	East Stroudsburg	82	" 29	Carcinoma of ascending colon
William B. Small	Philadelphia	70	" 27	Arteriosclerosis

Zinc Oxide Oil of Cloves Paste in Treatment of Osteomyelitis

JOHN J. McALEESE, M.D.

Pittsburgh, Pa.

THE adequate treatment of pyogenic osteomyelitis must continue to hold the interest of the medical profession. The residual disabling deformities resulting from osteomyelitis are so common that one easily realizes that therapeutic responsibility must not end with the initial medical and surgical intervention, but should continue in an attempt to terminate the disease so as to permit the patient a more nearly normal activity. However, the fulfillment of such a desire has taxed the ingenuity of all who have attempted it. Satisfactory treatment is lacking as is easily proven by the numerous advocated methods; namely, the chemical antiseptic method of Carrel-Dakin, the viable antiseptic maggot therapy of Baer, and the method of Orr. The treatment suggested by us is much the same as that of Orr, except that phenol is used instead of iodine and zinc oxide oil of cloves filling replaces the vaseline packs.

Five cases of hematogenous osteomyelitis have been treated by our method. Each of the cases was carried through the acute, desperately ill stage of the disease by supportive treatment; namely, blood transfusion, immobilization, and compresses to the part. Following the acute stage is the reactive stage when the tension of the exudate is relieved either by rupture of the periosteum or by surgical interference. It was at this time that we treated each case by surgical drainage and packing with zinc oxide oil of cloves paste.

Our method is as follows: Under general drop-ether anesthesia a thorough débridement and drainage operation is performed. The bone cavity is then touched with pure carbolic acid. Following this the wound is packed open by the institution of the zinc oxide oil of cloves paste. The paste can be made at the time of operation and can be easily made to the desired consistency so that it can be forced into the wound in a rather liquid form by syringe or packed into the area in paste form by a spatula. The zinc oxide powder is placed on a tray and enough oil of

cloves by drops is mixed with it to make the desired consistency of either a fluid or a paste. No effort is made to sterilize the zinc oxide powder or the oil of cloves. After the wound is packed open, an extensive splint is applied to the part. Following this we proceed with the "do not disturb" attitude.

After a period of a week or 10 days it was necessary in each of the cases being discussed to change the dressing, as there was a serous type of exudate present. At this time the zinc oxide oil of cloves had hardened to almost plaster of Paris consistency. At each succeeding dressing of 3 to 4 weeks, there was noted the expulsion of the zinc oxide oil of cloves filling; and after an average period of 3 months the filling in all but 2 of the cases had been gradually extruded in bulk mass and had been replaced by healthy granulation tissue and bone.

Fig. 1 demonstrates the acute osteomyelitis of the tibia. Fig. 2 represents the same case 10 months after the original treatment. At the time this film was taken the boy was carrying on a



Fig. 1



Fig. 2

normal active life. Fig. 3 represents the filling in place in the neck of the femur. Fig. 4 represents the filling in the tibia in another case.

Two of the cases, after 16 and 18 months' treatment respectively, must still return to the outpatient department for dressings, as there is a slight exudate and there are small particles of the filling still being extruded through a small sinus opening.

What has happened in these cases? At least 3 of them are clinically recovered at the present.



Fig. 3

We feel confident that the other 2 cases may also be freed from the horrible affliction. Whatever agent clears out the offending infection must appear spontaneously, for none has been introduced. At least we cannot believe that the phenol or mild antiseptic action of oil of cloves and zinc oxide is the answer. Therefore, it is logical to assume that with the long lapse of time, with no interference to the wound, a bacteriophage has developed, has multiplied, and healing has occurred. This is certainly not new, for we know that this is the principle behind the Orr treatment, and Fred H. Albee proved a specific phage in 94 per cent of osteomyelitis cases he treated with packing and "do not disturb" methods.

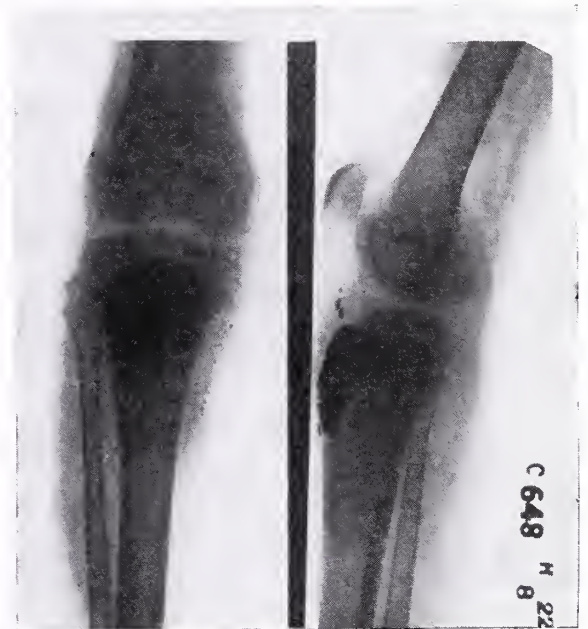


Fig. 4

With this working hypothesis, 2 things became apparent:

1. The need for specific phages for each strain of bacteria which could be introduced into the wound and remain there to work.

2. Most of these lesions are deep, extending wounds into the bone; therefore, an ideal wound dressing must fulfill the following:

1. A dressing with solidity sufficient to restrict the tendency of the orifice at the dermis to close earlier than the depths of the wound. Moreover, this material should be such that it will flow to every recess of the wound, then become solid, thus preserving the original contour of the wound.

2. Avoid adherence to the bone and then slowly be extruded as granulations fill up the depth of the wound.

Numerous materials have been used: Beck's paste, Morrison's paste, paraffin and yellow vaseline, and vaseline and mercurochrome gauze. But the unfavorable things about the above-mentioned are:

1. The consistency cannot be controlled.
2. Gauze-vaseline permits strangulation of the granulations in the meshwork.
3. The meshwork of gauze becomes adherent to the bone at the bottom and so resists extrusion.
4. The necessity for repeated dressings to allay the odor, thus prohibiting the phage to have time to work.

None of these complications appear to arise with the zinc oxide oil of cloves dressing.

To summarize the advantages as we see them:

1. It is simple in its application, requiring a minimum amount of labor on the part of the surgeon and his staff.
2. It does not interfere with immobilization of the part.
3. A uniform pressure is exerted throughout the wound—an important consideration in the healing of any wound. This is much more effective than frequent dressings by the surgeon.
4. It helps avoid reinfection by repeated dressings.
5. Dressings apparently are favorable to the positive bacteriophage.
6. It does not allow odor.

ABSTRACT OF DISCUSSION

HOWARD A. JOHNSON (Uniontown): The general experience of surgeons compels us to accept Dr. McAleese's statement that osteomyelitis has taxed the ingenuity of all who have attempted to terminate the disease so as to permit the patient a near normal activity. Therefore, any new concept or principle of treatment which presents a measure of hope for mitigating the ravages and crippling effects of this disease and which may hasten or assure a more complete recovery is only naturally greeted with interest.

This is my reaction to the splendid paper of Dr.

McAleese in which he has so briefly and frankly presented his evidence of encouragement.

I have under my care at present a man, age 42, who came to the hospital with osteomyelitis of the radius of each arm, the tibia of each leg, and the second and third bones of the metatarsus of the right foot. Certainly this presents a most forbidding problem. Apparently this is a recurrence, the result of an old osteomyelitis of the femur which existed some 20 years ago.

Someone has said, "Once osteomyelitis manifests itself, the patient is never well of it." Some few years ago a boy, age 17, began abruptly to show typical signs and symptoms of osteomyelitis of the right femur. He was removed to the hospital very early in the disease, and the femur was promptly drilled.

After the usual prolonged course, he became apparently well and was able to return to work. Two years later he complained of pain in the back and began to notice gradually increasing difficulty in locomotion. Examination indicated some localized lesions. The spine was exposed from the ninth to the eleventh dorsal vertebra, and a necrosis of the lamina of the tenth vertebra was found with some inflammatory involvement about the dura causing pressure. Relief following laminectomy was dramatic and recovery apparently complete. But may we expect further manifestations of his primary infection in the future?

Until comparatively recently it was believed that there was promise for improving the results in the care of osteomyelitis by prompt exposure of the bone at the site of infection and for relieving pressure created by infection by drilling and/or channeling of the infected region. This procedure has not altogether reaped the anticipated rewards.

Within the past few years some physicians have introduced the thought that osteomyelitis should be considered as a cellulitis of the bone and, as a cellulitis elsewhere, treated conservatively until localization (abscess formation) occurs, then drained. Dr. McAleese, I would infer, has adopted this plan and I should like to ask if he considers that this has been a factor in improving his results.

The method of treatment outlined by Dr. McAleese is not without appeal for the reasons he has so logically given, and I shall be most interested to follow his results and to see if they will be supported by further experience with this type of treatment.

DR. McALEESE (in closing): I believe that the waiting or conservative attitude toward the boil of the marrow of the bone is the real secret to a cure in these osteomyelitis cases.

PENNSYLVANIANS ON THE EXAMINING MEDICAL BOARDS

The following approved examining boards in medical specialties have Pennsylvanians on the personnel as follows:

American Board of Anesthesiology, Henry S. Ruth, vice-president, Merion; American Board of Dermatology, Frederick D. Weidman, Philadelphia; American Board of Obstetrics and Gynecology, Paul Titus, secretary-treasurer, Pittsburgh; American Board of Otolaryngology, George M. Coates and Robert F. Ridpath, both of Philadelphia; American Board of Psychiatry and Neurology, Edward A. Strecker, Philadelphia; American Board of Radiology, Bernard P. Widmann, Philadelphia; American Board of Surgery, J. Stewart

Rodman, secretary-treasurer, Philadelphia, and Donald Guthrie, Sayre; American Board of Plastic Surgery, George M. Dorrance, vice-chairman, and Robert H. Ivy, both of Philadelphia; American Board of Neurological Surgery, Temple S. Fay, Philadelphia.

There are none on the following boards: American Board of Internal Medicine, American Board of Ophthalmology, American Board of Orthopedic Surgery, American Board of Pediatrics, and American Board of Urology.

There is an Advisory Board for Medical Specialties, organized in 1933-1934, to co-ordinate graduate education and certification of medical specialists in the United States and Canada. This board has a rather extensive personnel.

Experience With Blood Transfusions at the Blood Bank of the Philadelphia General Hospital

I. STANLEY HNELESKI, M.D.
Philadelphia, Pa.

THE blood bank at the Philadelphia General Hospital was organized under the supervision of Lewis K. Ferguson, M.D., and went into operation in November, 1937. In the following paper an endeavor will be made to relate the method of operation of the blood bank, and the results which have been obtained up to the present time, on the basis of 6842 venesections and 5730 transfusions.

The bank functions under a supervisory committee, composed of members of the laboratory, surgical, and nursing staffs, and is in direct control of 2 graduate nurses who have charge of the solution department. One advantage of this arrangement is the fact that the identical technic used in preparing apparatus in the making of various solutions is observed in the preparation of apparatus for transfusion work.

The deposits of blood are obtained purely on a voluntary basis from relatives or friends of the subsequent recipients. They are notified to report to the venesection clinics at a specified time. For convenience, 2 evening clinics are held each week and in the afternoon during the remainder of the week, except where there is a question of emergency; in that event, venesection may be performed at any time. It is preferable that donors do not ingest a meal just before giving blood.

At first the venesections were performed by the intern staff on a rotating basis, but this did not prove satisfactory, as a new group had to be trained periodically. For the purpose of standardizing the technic, the graduate nurses in charge were trained to do venesections, and since that time the plan has proven satisfactory. A complete record is kept of each and every donor, including name, address, type of blood, recipient, and the name of the physician for whose patient the blood is donated. In the event that the serology proves to be positive, a follow-up of

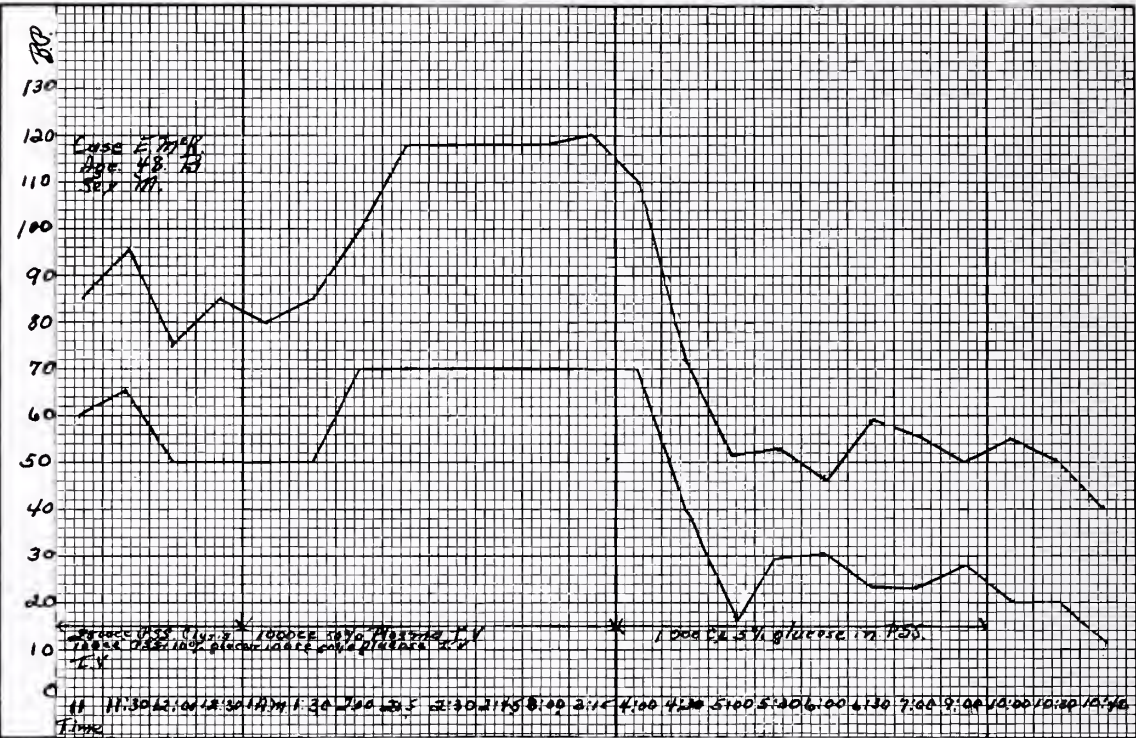
the individual is carried out for the purpose of subsequent treatment.

The venesection apparatus employed is an Erlenmeyer flask which has been adapted to a closed system, with an inlet for adding more anticoagulant when necessary. The anticoagulant which is employed is a 2.5 per cent sodium citrate in the proportion of 1:10. This solution for our purpose has proven satisfactory, as the duration of storage has not been our problem. The patient's arm is prepared aseptically in the usual manner, and after the apparatus is assembled, 20 c.c. of citrate solution is added to the flask, and subsequently by mouth suction an additional 10 c.c. is drawn through the intake tube in order to saturate the needle and tubing.

During the process of collection, slow, constant agitation of the blood is of utmost importance in order to prevent clot formation. If at any time additional citrate is necessary, the closed system is maintained by the addition of required citrate through a properly provided inlet in the stopper of the venesection flask. The amount of blood taken usually averages between 300 to 400 c.c. Following the completion of the process of venesection, the flask is immediately sealed and the specimen is immediately transferred to the refrigerator. In the meantime specimens have been taken in separate test tubes for serology, typing, and cross-agglutination, the former two being sent to the laboratory for examination, the latter one being attached to the respective flask for use in typing when necessity arises. The flask of blood is properly labeled as to the donor's name, date of venesection, and the name of the physician to whom it is credited. Subsequently the type and serology are recorded, and lastly the recipient's name is recorded. In addition, for each specimen of blood there is a filing card placed in a file according to type when such is reported, and that remains in activity until the blood is dispensed.

As regards the technic of storage, it is im-

Read before the Section on Surgery of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 3, 1940.



Graph of a case of diabetic coma with secondary shock in which plasma was administered.

TABLE I

	Nov. 1, 1937 to May 1, 1938	May 1, 1938 to Nov. 1, 1938	Nov. 1, 1938 to May 1, 1939	May 1, 1939 to Jan. 1, 1940	Jan. 1, 1940 to Sept. 1, 1940	Total
Venesections	1000	1253	1260	1609	1720	6842
Transfusions	898	893	1091	1326	1522	5730
Bloods discarded						
Positive and doubtful serology..	95	65	92	97	111	460
Hemolysis .....	....	180	50	107	18	355
Specimen unsatisfactory	4	23	8	11	....	....
Excessive and insufficient citrate and cloudy supernatant fluid..	....	55	....	10	8	73
Miscellaneous						
Cultures, breakage, experi- ments	3	37	19	16	5	77
Plasma .....	....	....	....	42	56	98
Reactions						
Variable degree of chills with:						
(a) No temperature change..		....	6	5	....	11
(b) Moderate temperature change, 1 to 2 degrees...		20	11	9	9	49
(c) High temperature change, over 2 degrees		31	17	7	14	69
Rash, jaundice, flushing, and dyspnea		6	....	....	2	8
Death		1 (?)	1	....	....	2
Total		58	35	21	25	147
Percentage		6.4%	3.2%	1.5%	1.6%	3.1%
Reactions according to types						
Type A B I		2	1	1	0	4
Type A II		20	9	4	9	42
Type B III		7	8	5	4	24
Type O IV		4	11	11	8	34
Type unrecorded		25	4	....	4	33
Incompatible types .....		....	2	....	....	2
Percentage of types (Approximately)						
Type A B I .....		....	....	....	3.2%	....
Type A II .....		....	....	....	32.7%	....
Type B III .....		....	....	....	14%	....
Type O IV .....		....	....	....	49%	....

Reactions from Nov. 1, 1937, to May 1, 1938
Records scarce—only 8 recorded
Reports of all transfusions not required

portant that the temperature range be between 38 to 40 F. at all times. During storage the closed system is maintained, and when typing is necessary, the attached specimen tube is utilized. The stored flask is handled as little as possible in order to prevent undue hemolysis. The duration of storage is limited to about 5 days, although a limited number of transfusions have been given with blood as old as 10 days when the specimen appeared to be satisfactory. Nevertheless, if a specimen of blood appears to be out of the ordinary for any reason at all, the specimen is discarded. Needless to say, all those proving to have a positive serology are discarded. A certain percentage of overdated specimens more recently have been used for the preparation of plasma, concerning which reference will be made later.

After proper typing and cross-agglutination is established, the blood is dispensed to the ward with a special recipient tray and the transfusion is carried out by the intern. The blood is not heated, but administered at room temperature. We feel that heating of the blood, as was done earlier, produced a rapid change of temperature and at extreme temperature in inexperienced hands probably caused a chemical decomposition. This factor, we believe, was a cause for a certain percentage of reactions.

The blood is administered from the original flask by means of a suction syphon attachment, at the rate of 4 to 5 c.c. per minute by the drop method. We feel that slow speed of administration is an important factor in preventing untoward reactions. When a reaction occurs, the transfusion is immediately terminated, the occurrence is reported to the blood bank, and the apparatus is sent to the laboratory where studies are rechecked and cultures performed.

The majority of reactions in our series have been confined to chills of varying degree, accompanied by a thermal manifestation. One questionable death occurred, and only one death could be definitely attributed to transfusion. This happened to be a postoperative case where a transfusion was thought to be of such urgency that the rules were violated and a Type IV blood given to a Type IV recipient without cross-agglutination. Subsequently, the patient received a severe immediate reaction, developed anuria, and died 4 days later.

As a result of the herein stated precautions and standardization of technic, it is believed that the efficiency of the blood bank has been increased, and the reactions have been reduced to a minimum, as evidenced by the reaction rate of

TABLE II

REACTION STATISTICS

Febrile patients	59.6%
Afebrile patients	40.4%
Average:	
Amount of blood administered	255.5 c.c.
Time of administration	69.5 min.
Speed of administration	3.6 c.c. per min.
Duration of chills	21.5 min.
Temperature change	2.7 degrees
Age of blood	2 to 3 days

6.4 per cent in the beginning, and more recently 1.5 per cent to 1.6 per cent.

As was mentioned previously, a certain percentage of the outdated blood is used for plasma preparation, and though it is not within the scope of this paper to go into the details concerning plasma, nevertheless in those instances where the turnover in a blood bank is slow, and specimens accumulate which ordinarily would be discarded, these may be used for plasma. The plasma is separated from the cellular elements by aspiration, under aseptic precautions, is filtered during aspiration, and subsequently before sealing and storage is diluted with equal parts of physiologic saline solution. Specimens of plasma are pooled as far as types are concerned and are administered through the same apparatus as blood transfusions in order to filter it properly during administration to the patient.

On the basis of having administered plasma to about 60 different types of cases, it has been found to be a very valuable therapeutic agent, particularly where there is necessity for replenishing the blood volume in an emergency, if and when satisfactory whole blood is not available, or when there is no time for typing or cross-agglutination of blood.

This plasma has been administered without regard to typing and cross-agglutination. It has been proven particularly valuable in cases of shock, regardless of the cause, as illustrated by means of the accompanying graph of a case of diabetic coma with secondary shock.

Summary

1. The blood bank, in our experience, has been of great value as a convenient supply of blood whenever emergency arises.

2. The efficiency of its operation and keeping untoward reactions down to a minimum depends upon a constantly trained personnel and the precautions that have been enumerated.

3. In those instances where the blood turnover is slow, the outdated blood may be used to prepare plasma which is of value where there is necessity for rapid replenishing of blood volume,

and is of particular value in cases of shock. It need not be typed or cross-agglutinated.

ABSTRACT OF DISCUSSION

WILLIAM P. BELK (Philadelphia): Dr. Hneleski is to be congratulated on developing this service, and particularly on reducing the reactions to less than 2 per cent.

I would like to speak of a blood bank in a small hospital. In the Episcopal Hospital of this city we have supplied blood for about 900 transfusions in the past year. We have not found that this blood is more dangerous than fresh blood. We have a reaction incidence of about 6 per cent. We have found, however, that blood stored—and this is stored in citrate only—very rapidly deteriorates. This deterioration involves red blood cells, which become more fragile, and there is also a very rapid disappearance of the polymorphonuclear leukocytes and platelets. Moreover, we have been testing the survival time of this blood. A chart is so constructed that

the figures on the left show the time the transfused blood survives in the patient. One sample of blood, which was in the bank only 2 days, survived more than 90 days in the patient. But with blood stored between 2 and 7 days, the life of the transfused cells in the patient shortened quite rapidly, so that on the seventh day of storage the survival of the transfused cells in the patient was only 2 days, and to me that means that there was no survival at all. I consider that a very important truth.

The addition of glucose has enhanced the keeping properties of blood very much. We are beginning to add glucose because we feel that the blood will then be of more use to the patient.

I would like to mention one other point. A small hospital should not use a bank in which blood is stored in citrate. If glucose citrated blood is to be used, it would be wise to postpone the installation of such a bank until it is more certainly learned what may be expected when blood is kept in glucose and citrate.

CAN YOU KEEP CHRISTMAS?

"Are you willing to stoop down and consider the needs and the desires of little children; to remember the weakness and loneliness of people who are growing old; to stop asking how much your friends love you, and to ask yourself whether you love them enough; to bear in mind the things that other people have to bear on their hearts; to trim your lamp so that it will give more light and less smoke, and to carry it in front so that your shadow will fall behind you; to make a grave for your ugly thoughts, and a garden for your kindly feeling with the gate open? Are you willing to do these things even for a day? Then you can keep Christmas."—HENRY VAN DYKE.

STUDY SUGGESTS MODERATE DRINKING HAS LITTLE EFFECT ON VISION

Studies made on 21 persons, most of them professional men and their wives, showed little evidence that the drinking of moderate amounts of alcohol significantly affects the vision, Z. William Colson, M.D., Boston, reports in *The Journal of the American Medical Association* for Nov. 2.

His investigation was undertaken to determine the immediate visual effects of a few drinks as ordinarily consumed by the drinking public, Dr. Colson says. There was no attempt to appraise the effects of chronic alcohol intoxication.

After preliminary tests of vision had been made for the purpose of a "before and after" comparison, each subject was given 2 ounces of good quality rye or scotch with ginger ale or soda or without as he chose. The 2-ounce drinks and tests were repeated at half-hour intervals until the subjects became incapacitated for further tests.

Tests revealed no important effect on visual clarity or color vision and no lessening of the field of vision. Tests for adapting the eyes to sudden darkness also gave negative results except in one case, in which such adaptation was already abnormally low. "These tests suggest that alcohol has no effect on dark adaptation when one's margin of safety is high," the author says,

"but it may have a definite effect when through vitamin A deficiency or severe fatigue the reserve is low."

However, he warns that until more accurate tests are devised one should not assume that there is no momentary effect on dark adaptation after the consumption of alcohol. While the tests done in this series show no appreciable change, there may have been changes which the technic employed was not quick enough to catch. Such retardation, if present, would be extremely hazardous in night driving—for example, in seeing objects on the road after being subjected to the glare of oncoming headlights.

Regarding tests of muscle balance of the eyes, Dr. Colson says that all subjects showed a gradually increasing esophoria.

"While no depth perception tests as such were done," he observes, "it seems probable that the esophoria noted would have a definite effect on depth perception. It would seem that he who drinks frequently would be more likely to educate himself to allow for changes in distance values than would the very occasional drinker. It was suggested to me by Dr. F. H. Verhoeff that the esophoria would affect chiefly the judgment of absolute distance and have no important effect on that of relative depth."

REVENGE

There is a story about a French poodle, of which James Abbott McNeil Whistler, the artist, was extravagantly fond.

This poodle was seized with an affection of the throat and Whistler had the audacity to send for the great throat specialist, Sir Morell Mackenzie. The latter, when he discovered that he had been called to treat a dog, didn't like it much, but he said nothing. He prescribed, pocketed a big fee, and drove away.

The next day Dr. Mackenzie sent post-haste for Whistler, who, thinking he was summoned on some matter connected with his beloved dog, dropped his work and rushed like the wind to the Mackenzie home. On his arrival Sir Morell said, gravely:

"How do you do, Mr. Whistler? I wanted to see you about having my front door painted!"—Philadelphia *Evening Bulletin*.

The Suppression of Lactation by Stilboestrol

CRAIG WRIGHT MUCKLÉ, M.D.
Philadelphia, Pa.

THE story of the discovery and synthesis of diethyl-stilboestrol by Dodds and his associates is familiar to all. Stilboestrol has been found to be truly estrogenic. It relieves menopausal symptoms, converts atrophic vaginal epithelium to the squamous type, and satisfies the other criteria for estrogenic activity. One of the most interesting and valuable uses for this new drug has been the inhibition or suppression of lactation in puerperal women. This procedure is often necessary, and is usually prolonged and painful when attempted by the older methods of fluid restriction—tight breast binders, strong laxatives, and the application of warm camphorated oil. During the past 16 months we have administered stilboestrol to more than 250 women for the purpose of suppressing or inhibiting mammary secretion in the puerperium.

The mechanism by which stilboestrol inhibits lactation is most interesting. In 1928 Stricker and Grueters pointed out that aqueous extracts of the anterior pituitary gland caused lactation in pseudopregnant, castrated, and weaned rabbits. The preparatory changes in the breasts during pregnancy are attributed to the prolonged action of estrogens and progestin. The high level of estrogen maintained during pregnancy is believed to inhibit the actual secretion of milk. Labor is preceded or accompanied by a rapid decrease in the concentration of estrogens. The generally accepted theory at the present time assumes that the lactogenic influence of the pituitary, which has been inhibited by the high concentrations of estrogen in the blood during pregnancy, becomes active and stimulates the mammary glands resulting in the secretion of milk.

Robson (1935) was able to suppress the secretion of milk in lactating mice by the injection of estrin. In 1938 Ramos and Colombo reported from Buenos Aires that they had suc-

ceeded in inhibiting milk secretion in 50 women by the intramuscular injection of estrogens in oil. They made the statement that "milk secretion may be inhibited at any time during lactation." Foss and Phillips (1938) showed that small oral doses of estrone were effective in suppressing lactation in a series of 62 puerperal women. Finally, in 1939, Winterton and MacGregor reported that they had successfully used stilboestrol by mouth in the inhibition and suppression of lactation.

More than 250 women have received stilboestrol at the Pennsylvania Hospital (Philadelphia Lying-In Hospital) during the past 16 months for the purpose of preventing or diminishing lactation. Of this group, 208 patients were observed sufficiently to evaluate the effects of the drug. Seventy-five of these cases have been previously reported by the author and are included in the present paper. In the original study an attempt was made to determine the effectiveness of stilboestrol, and the conclusion was reached that "the use of stilboestrol is an efficient and safe method of suppressing lactation early in the puerperium." The present paper relates our experiences in attempting to find the optimum dosage.

TABLE I

DURATION OF PREGNANCIES

0-21 weeks	4
22-28 weeks	13
29-37 weeks	20
Over 37 weeks	171
	208

The duration of the pregnancies is shown in Table I, and it will be noted that the patients are for the most part at term and might be expected to have full and normal lactation.

The indications listed are those given by the physicians in charge, as the majority of these women were private patients. The largest group consists of patients whose lactation was insufficient. Many of these patients had only from

Read before the Section on Obstetrics and Gynecology of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 1, 1940.

From the Pennsylvania Hospital (Philadelphia Lying-In Hospital).

TABLE II

INDICATIONS FOR SUPPRESSION OF LACTATION

Insufficient lactation	74
Elective	56
Neonatal death	21
Stillbirth	18
Maternal disease	15
Baby unable to nurse	11
Inverted or tender nipples	10
Abnormal milk	3
Total	208

one-half to one ounce of milk at each nursing, but had firm, painful breasts. Fifteen others were so ill that it was not deemed advisable to allow the babies to nurse. Three of these mothers were suffering from tuberculosis and the remainder had heart disease, eclampsia, or pneumonia. Five babies were too sick or too weak to nurse, and 6 infants simply refused. It is gratifying to note that no patients developed breast abscesses when stilboestrol was used to suppress lactation. While many breasts can be dried by the usual methods without great difficulty, the patients are more comfortable and the lactational period is shortened when stilboestrol is used. Breast engorgement has been a very infrequent cause of morbidity since we have been using stilboestrol.

The number of days following delivery before the administration of stilboestrol was started is shown in Table III.

TABLE III

TIME FOLLOWING DELIVERY

Days after Delivery	No. of Patients
0-3	82
4-7	68
8-14	55
15-28	3

Optimum Dosage

Our first group of 89 cases was treated with an arbitrary dose of 5 milligrams of stilboestrol by mouth 3 times a day for a total of 6 doses. The patients were encouraged to drink fluids freely, and laxatives were ordered only for constipation. Warm camphorated oil was not employed, and breast binders were loosely applied for support and not for compression.

Because we felt that the dosage employed might be unnecessarily high, and because 40 per cent of our patients had some recurrence of lactation 4 or 5 days after stilboestrol was stopped, 3 other dosage schedules were studied. These consisted of 5 milligrams daily for 7 days, 1 milligram 3 times a day for a total of 6 doses,

TABLE IV

OPTIMUM DOSAGE OF STILBOESTROL

Dosage			Suppression			
No. per		Days	Patients	Complete	Partial	None
Dose	Day					
5 mg.	3	2	89	85	3	1
5 mg.	1	7	68	55	12	1
1 mg.	3	2	19	16	2	1
1 mg.	1	7	32	20	11	1
Total ..	..	..	208	176	28	4
Per cent ..	..	..	...	85	13	2

and 1 milligram daily for 7 days. The results are shown in Table IV.

Although the number of cases studied is too small to warrant definite statements, a number of tentative conclusions are possible. The best results are obtained with 5-milligram doses rather than 1-milligram doses. The administration of a large dose within a short space of time gives better results than prolongation of the period of administration. Apparently the administration of the drug 3 times a day by mouth results in a more complete inhibition of lactogenic secretion than does a single daily dose.

This sustained depression of pituitary activity obtained by frequent administration of estrogen apparently is more effective than intermittent inhibition in preventing mammary gland stimulation.

Our results with stilboestrol have been very gratifying. In most cases the breasts became soft within 24 to 36 hours and there was marked diminution in the amount of milk secreted. The rapid relief of discomfort was greatly appreciated by the patients, and frequently remarked upon by those who had previously had their breasts dried by the older routine of tight binders and dehydration. The ability to force fluids while drying the breasts was very valuable in hot weather, and with febrile or postoperative patients. No interference with uterine involution or with the flow of lochia was noted. In a moderate number of patients a slight amount of secretion persisted regardless of the dosage employed. If medication was started the day after delivery, filling of the breasts could often be entirely prevented.

Although the larger doses gave the best results, 85 per cent of all the patients had marked suppression or complete inhibition of lactation. Patients whose breasts remained full or painful more than 48 hours were classified as "partial suppression," and 13 per cent fell into this category. Only 4 patients (2 per cent) of 208 obtained no relief.

Secondary Lactation

A somewhat troublesome feature of the stilboestrol technic is the reappearance of lactation. We have been able to follow 107 patients a sufficient length of time to determine the number of women in whom there was some degree of secondary lactation. Forty of these 107 women (37 per cent) noted a return of lactation or of breast congestion. In practically every such case this occurred on the fourth or fifth day after the last dose of stilboestrol. There was less engorgement than originally and the amount of secretion was usually small. In such cases a second shorter course of stilboestrol usually sufficed to suppress lactation permanently. The dose employed bore no demonstrable relationship to the recurrence of lactation, but the frequency of administration seemed quite important. The maintenance of a high concentration of estrogen for a short period of time by the administration of a tablet 3 times a day resulted in less secondary lactation than did the longer but less intense method of one tablet a day.

TABLE V
SECONDARY LACTATION

<i>Dose</i>	<i>Stilboestrol No. per Day</i>	<i>Days</i>	<i>Cases Followed</i>	<i>Secondary Lactation</i>
5 mg.	3	2	60	26
5 mg.	1	7	27	10
1 mg.	3	2	8	0
1 mg.	1	7	12	4
Total	..	..	107	40
Per cent	..	..	...	37.4

Toxic Effects

Among the 208 patients reported in our series there were 4 who suffered toxic effects attributable to stilboestrol. In another group of 42 patients omitted because of incomplete data there were 3 other cases. Six patients were nauseated, and one of these also complained of epigastric and abdominal pain, diarrhea, and "soreness all over." The seventh patient had a mild dermatitis which appeared following use of the drug. In no instance was it necessary to stop the stilboestrol, and in 3 instances a second course was given for secondary lactation with no ill effects. Five of the patients were receiving 5 milligrams 2 or 3 times a day. The other 2 patients received one-milligram doses. No permanent damage of any type and no other untoward effects were noted. Intolerance to stilboestrol appears to be limited to a small number of patients, and is usually manifested by minor gastro-intestinal disturbances, with no major or permanent toxic effects.

Weaning

Stilboestrol has also been tried as a means of assisting involution of the breast at the time of weaning the infant. Our experience with this phase has been too limited to allow us to present more than impressions. While patients will tolerate large doses of estrogen in the immediate puerperal period, this tolerance apparently lasts only 2 or 3 weeks following delivery. Five-milligram doses daily cause nausea very frequently when given more than 2 or 3 weeks postpartum. Doses of one milligram a day are tolerated fairly well, but are much less effective than immediately postpartum. We believe that mammary secretion, after lactation is well established, is more dependent upon the suckling reflex than upon pituitary stimulation, and is more automatic than endocrine in its mechanism. Inhibition of the pituitary is therefore much less effective in suppressing lactation.

Summary

Stilboestrol has been administered to a series of 208 puerperal women for the purpose of inhibiting or suppressing lactation. Four dosage schedules were studied. It was found that 5-milligram doses were more effective than 1-milligram doses, and that the administration of a large dose within a short time gave better results than lengthening the period of administration. The optimum method is to administer 5 milligrams 3 times a day for a total of 6 doses. Marked suppression of lactation occurred in 85 per cent of patients, partial suppression in 13 per cent, and no beneficial effect was noted in 2 per cent. In 37 per cent of 107 patients followed, there was a secondary recurrence of lactation. This was usually painless, slight in amount, and responded to further medication. Toxic effects, consisting chiefly of nausea, were noted in 7 (2.8 per cent) of 250 patients. No major or permanent ill effects were noted. Stilboestrol is of less value in drying the breasts after 2 or 3 weeks following delivery, and smaller doses must be used because of a higher incidence of nausea. The use of stilboestrol is an efficient, useful, and safe method of suppressing lactation early in the puerperium.

We wish to thank Dr. J. A. Morrell of E. R. Squibb & Sons for supplying the stilboestrol used in this study.

ABSTRACT OF DISCUSSION

CLIFFORD B. LULL (Philadelphia): I should like to preface my few remarks with a word of caution. It seems to me that 2 of the greatest rackets that have crept into the practice of medicine in the past few years have been the giving of sulfanilamide and the use of estrogenic hormone.

To cite an example: In making the rounds in a Philadelphia hospital the other day, I saw a patient in a ward who had been admitted the night before with pain in the right side associated with a very early pregnancy. The intern had made a diagnosis of pyelitis without a catheterized specimen of urine and without a blood count, and that woman was already getting sulfanilamide when I saw her. On careful examination the diagnosis was intercostal abdominal neuralgia.

No doubt we who practice gynecology as a specialty all see many patients in our offices during the course of a year who have been given estrogenic hormone on the slightest provocation and without careful pelvic examinations to reveal pelvic pathology.

There is no question in my mind that stilboestrol is an excellent drug, but I do not believe that we have reached the point where it should be given indiscriminately.

When stilboestrol was first placed in our hands for experimental purposes, I was particularly impressed by the fact that a large number of patients could not tolerate it, which made me feel that possibly there was more

toxicity to this drug than we thought. However, as time has gone on, neither one of these points has been proven and, from the mass of reports that are gradually creeping into the literature, it certainly is a valuable adjunct as far as our work is concerned.

I have been particularly impressed with the comfort these patients have had during the suppression of their lactation. As I look back over a good many years, my time and energy particularly were spent endeavoring to make my patients nurse their babies, and one of the most frequent questions I have been asked is: "Why do not more mothers today nurse their babies?" I am still looking for the answer.

It seems to me that there are increasingly more women who must have their breasts dried up during the puerperal period. The ease with which this can be done by the use of stilboestrol seems to have been proven, and as time goes on I believe that this drug will probably be proven not at all toxic. But we should be a little careful and not give stilboestrol to every woman who has some symptoms of withdrawal of the estrogenic hormone.

EUROPEAN WAR BLOCKADE IS LESSENING RECEIPTS OF MEDICAL LITERATURE

The toll of the European war and blockade on medical literature being received from abroad is outlined by *The Journal of the American Medical Association* for Aug. 24.

"Gradually since the end of May there has been a diminution in the receipt of medical publications coming from abroad to the *Quarterly Cumulative Index Medicus* and to the Library of the American Medical Association," *The Journal* reports. "The library has been receiving in the past about 1400 different periodicals. The most recent shipment from Germany arrived on July 22, at which time, however, only 2 periodicals were received. Eight periodicals came on June 26, but the last large shipment arrived on May 27. Already, therefore, some of the German publications are more than 3 months in arrears.

"Some Austrian weekly publications which used to arrive every 7 to 10 days have not been received since early in June. Polish and Czechoslovakian journals have not been received for many months. Sixteen such publications have been dropped from the *Index* since the beginning of 1940. Within the past 2 months official notification has been received of the suspension of 11 French medical periodicals. From Italy the last weekly receipts were at the end of June and few Italian publications have come since that date. The publications from Great Britain for June and July are being received with perhaps a very slight delay. Some publications dated July, 1940, arrived in Chicago as late as Aug. 17.

"The effects of the difficulty in the receipt of foreign periodicals are reflected in the current medical literature department of *The Journal*, from which no doubt readers have noticed the absence of some of the foreign publications which used to be listed and abstracted regularly. The *Quarterly Cumulative Index Medicus* will likewise show some diminution in size in the next issue. In the issue for January to March, 1940, 8160 articles were indexed from the foreign literature. In the issue for April to June, 1940, 7590 articles were indexed—

a decline of 570 articles. The period of July to September will be closed shortly; up to Aug. 19, however, only 3415 articles have been listed—a decline of more than 50 per cent in the material available.

"No doubt some of the decline in the foreign medical literature is due to difficulties concerned with the securing of paper and printing supplies and with the fact that many men are engaged in military activities. Unquestionably also the blockade on shipping has prevented the transmission to the United States of some of the periodicals that are being published."

GRIP OR COLD SYMPTOMS IN PREGNANCY SHOULD HAVE IMMEDIATE TREATMENT

A pregnant woman with any of the symptoms generally attributed to grip or the common cold should be given immediate treatment lest the condition progress into a serious form of lung infection, Milton G. Potter, M.D., Buffalo, N. Y., recommends in *The Journal of the American Medical Association* for Aug. 17.

The most frequent symptoms in such cases, he says, are a feeling of malaise, stuffiness in the head, sore throat, a slight rise in temperature, with or without pain in the chest, and stomach and intestinal disturbances.

"Whether this group of symptoms is called grip or a common cold is immaterial," the author declares. "The fact remains that a pregnant woman with these symptoms should have the serious consideration of the physician in charge and treatment should be instituted immediately. Too often the physician considers this condition lightly and allows what might have been a mild attack to progress into one of the more serious types of pulmonary infection." Unless checked, such infection will have severe consequences for both mother and child, he observes.

"It is wise for every person of business to keep to himself his dislikes. Tell only your likes. It is detrimental to talk about either. Silence is golden."

EDITORIALS

THE SEASON'S GREETINGS

Past history and observation of present conditions tell us that material possessions are no guarantee of happiness. Happiness is something that comes from within. The greatest gifts are sometimes those which cost the least in money, but the most in love and sacrifice. This means that the joy of giving is sufficient inducement for us to deny ourselves present indulgences.

Beautiful as is the sentiment of gratitude for the good in life, it is enhanced by a spirit of good will for our fellow men and a concrete appreciation of peace on earth. Even in the sad periods of armed international conflicts the belligerents have been wont to cease firing during Yuletide as a tangible expression of tribute to that spirit which characterizes, or should characterize, modern civilization.

Much of Europe is still at war. The rest is living in fear and doubt. Nations are being erased from the map, but "Christmas, however harassed the world may be, remains the changeless miracle of newborn faith and hope in a brighter future."

The JOURNAL wishes all its readers a very merry Christmas!

INADEQUATE FACILITIES FOR THE CARE OF MENTALLY HANDICAPPED CHILDREN

The following resolution was unanimously passed by the Child Health Committee of The Medical Society of the State of Pennsylvania at a meeting held in Harrisburg, June 18, 1940:

After a careful survey of the present facilities for the care of mentally handicapped children in the State of Pennsylvania, and knowing the great and urgent need of the expansion of these facilities; knowing the large number of patients on the lists waiting for admission; knowing that many such patients are not even listed because of the difficulties encountered in obtaining admission to the Pennhurst or Polk Schools; be it resolved that this committee goes on record as being in favor of improving and expanding the present facilities for the care of mentally handicapped children. If the present facilities were increased threefold, the expansion would not be too much.

The only way the present facilities for the care of mentally handicapped children in Penn-

sylvania can be improved is by larger appropriations labeled for allotment to the Department of Welfare.

THEIR RIGHT TO HEALTH

CHRISTMAS SEALS



*Help to Protect
Your Home from
Tuberculosis*

A strange course is charted by tuberculosis through the years of life. It veers in and out among boys and girls and men and women, never giving any period of life a clear berth, but choosing certain years—the young, active, and productive years—for its most frequent and violent attacks.

Although seldom thought of as one of the so-called childhood diseases, tuberculosis kills more children from age 5 to 10 years than does scarlet fever. Between the ages of 5 and 20 it kills more children and young people than any of the other communicable diseases, and more than all combined except pneumonia.

The disease takes boys and girls alike, showing little of the preference found later. When the 'teens are reached, tuberculosis rapidly advances to take more lives than any other disease. It is more deadly among girls than among boys. Science does not yet know why.

Tuberculosis continues to take more lives than any other disease during the twenties and it still kills more young women than young men. During the thirties the toll of lives among men mounts and through the remaining years of life more men are victims than women.

The Christmas Seal for this year pictures 3 happy singing children who seem appropriately to voice the plea—"Protect Us From Tuberculosis."

Physicians, scientists, health departments, and tuberculosis associations are putting forth valiant efforts to answer that plea, but there is no vaccination for the prevention of tuberculosis and no drug for its cure. One important answer to the problem is universal education regarding tuberculosis—how it is transmitted, how it can be prevented, how it affects the body, and how it can be successfully treated.

The Christmas Seal makes possible the work of the Pennsylvania Tuberculosis Society and its affiliated organizations in the different counties. Their educational activities include the furnishing of literature on tuberculosis and related problems and a number of authoritative health motion pictures.

ARTHUR CARADOC MORGAN, M.D.



Arthur C. Morgan

Dr. Arthur Caradoc Morgan, of Philadelphia, well-known internist and distinguished teacher, who was fearless in debate, died from heart disease, Oct. 21, 1940, at Temple University Hospital, Philadelphia.

Dr. Morgan was born at Lost Creek (Schuylkill County), Nov. 14, 1869, a son of John and Margaret Morgan. He received a common school education, first working in the coal mines, later being employed by the Lehigh Valley Railroad Company as telegrapher, confidential clerk, and train dispatcher. Dr. Morgan was graduated from the Medico-Chirurgical College of Philadelphia in 1897, and was awarded the James M. Anders prize for the best report of medical clinics and excellence in medicine. He was a resident physician in the Philadelphia General Hospital, 1879-1898. Dr. Morgan was officially connected with the Medico-Chirurgical College of Philadelphia from 1898 until its merger with the University of Pennsylvania in 1916, at which time he held the chair of associate professor in medicine. He was associate in medicine, undergraduate medical department, University of Pennsylvania, from 1916 to 1920, and associate professor of medicine, Medico-Chirurgical College, Graduate School of Medicine, at the University of Pennsylvania, 1916 to 1922. He occupied the chair of professor of applied therapeutics at Temple University School of Medicine, Philadelphia, from June, 1922, to June 30, 1928. In 1930 he was appointed emeritus professor of clinical medicine at the latter institution.

Dr. Morgan received the honorary degree of Doctor of Science from Susquehanna University in 1926. He was a member of his county (past president) and state (past president) medical societies. He was president of his county society in 1925, and the home of the society was purchased during his administration. In 1927 he

was the eighty-first president of his state society. He was a member of the House of Delegates of the State Society for many years, and chairman of its Public Health Legislation Committee from 1926 to 1927. He was a Fellow of the A. M. A. (delegate from Pennsylvania to the House of Delegates at meetings held in Los Angeles in 1911; Portland, Oregon, 1929; Detroit, 1930; Philadelphia, 1931; New Orleans, 1932; Milwaukee, 1933; Cleveland, 1934; Atlantic City, 1935; Kansas City, 1936; Atlantic City, 1937; and San Francisco, 1938); Fellow of the College of Physicians of Philadelphia, 1920; Fellow of the American College of Physicians, 1923; member of the Philadelphia Clinical Association, the Aesculapian Club, and the Physicians' Motor Club.

Dr. Morgan was attending physician to the Tuberculosis Department of the Philadelphia General Hospital, 1905-1939, was on the board for selection of interns for 8 years, was a member of the executive committee of the medical board, and was the first treasurer of the medical board, 1937-1939. He was physician-in-chief, medical director, and lecturer to the Nurses' Training School, Frankford Hospital, 1915-1922.

Dr. Morgan was extramural physician to the Methodist Episcopal Hospital, Philadelphia, and consulting internist to the Eastern State Penitentiary for several years, Nanticoke State Hospital, Community Hospital, Quakertown, and formerly to the Chambersburg Hospital and the State Hospital for the Insane at Norristown. His medical fraternities were Phi Rho Sigma and Ptolemy. He was a member of the Welsh Society of Philadelphia (founded in 1729) from 1935 to 1937, the Union League of Philadelphia, and the Royal Arcanum. He was a thirty-second degree Mason. He served for 11 years as trustee and treasurer of East Park Methodist Episcopal Church in Philadelphia. During his college years Dr. Morgan was active in the College Y. M. C. A. and was chairman of the delegation to Northfield, Mass., for 2 years.

During the World War Dr. Morgan was a captain in the U. S. Army Medical Corps from July 3, 1917, to Dec. 27, 1918, and served as president of the Board of Examiners for heart and lungs at the several stations served. He was stationed at Philadelphia, Gettysburg, Walter Reed Hospital, Camp MacArthur (Waco, Tex.), Fort Screven, Ga., and Camp Lee, Va., examining about 20,000 soldiers. Dr. Morgan was a former member of the American Legion (chairman of the Department of Pennsylvania, Committee on Disabled Soldiers, 1923-1932). He

was a member of the Committee on the Costs of Medical Care, 1927-1932, and a signer of "The Minority Group Report" which was adopted as the official sentiment of the American Medical Association. He was a member of the State Board of Medical Education and Licensure, 1931-1935.

He attended National Eisteddfod, at Fishguard, Wales, Aug. 6, 1936, and visited Blockley, England, Aug. 8, 1936, the first president of The Welsh Society of Philadelphia and the first resident physician from "Blockley," Philadelphia, to receive these honors.

Dr. Morgan collaborated with James M. Anders, M.D., in the revision of several editions of Anders' *Practice of Medicine*, and was joint author with Dr. Anders of "Review of the Literature on Tetanus in the United States from 1850 to 1900," published in the *Journal of the American Medical Association*, 1905-1906; associate editor of THE PENNSYLVANIA MEDICAL JOURNAL; editor of the "Chi" *Medical Alumni Bulletin*, and chairman of "Chi" Scholarship Fund Committee. He was the author of numerous monographs on various topics and subjects in medicine.

Dr. Morgan addressed a large number of county, state, and local civic societies on subjects pertaining to medicine, having appeared before the University of Indiana, Indianapolis; Omaha-Douglass County Medical Society; Omaha, Neb.; and the Detroit Medical College Alumni Association in June, 1923. He was guest speaker before the Medical Society of Puerto Rico in 1935.

Dr. Morgan made a special study of the post-influenzal chest following the pandemic of 1918. Since 1920 his practice was restricted to internal medicine, consultation, and teaching.

On June 24, 1903, Dr. Morgan was married

to Laura Blake, who died Feb. 10, 1931. A daughter, a brother, and a sister survive.

TWENTIETH ANNIVERSARY

The *American Journal of Obstetrics and Gynecology* celebrated its twentieth anniversary (1920-1940) with the October, 1940, issue of the publication. THE PENNSYLVANIA MEDICAL JOURNAL begs to shower congratulations upon this very happy occasion.

The opening paragraph by the editors, Drs. George W. Kosmak and Hugo Ehrenfest, and The C. V. Mosby Company is as follows:

Twenty years ago this month there appeared the first number of a new publication, the *American Journal of Obstetrics and Gynecology*. It was issued in response to a demand for a successor to follow an honored predecessor, the *American Journal of Obstetrics and Diseases of Women and Children*, which suspended publication, by force of circumstances, in December, 1919, after an uninterrupted career dating back to 1868.

The present issue is intended to be commemorative. The editors believe that a comprehensive survey of most of the outstanding accomplishments of the period is presented in this anniversary issue.

Tribute is paid to George W. Kosmak, M.D., New York, for the services he rendered that made possible the creation of this Journal:

It is only fair to say that it was really Dr. Kosmak, a founder in name and in deed, who drove it through. Loyal friends rallied to his support, notably George Gellhorn of St. Louis, and The C. V. Mosby Company undertook its publication; Hugo Ehrenfest became associate and later co-editor, an advisory board of editors was chosen, as well as a thoroughly representative publication committee; and so was born this independent special journal 20 years ago.

We rejoice with those who have made possible the continuation of this most satisfactory journal in the field which it represents.

For complete discussion of Public Assistance Medical Service, see pages 331-334.

For complete discussion of the Free Laboratory Service of the State Health Department, see pages 326-329.

For complete discussion of Intern Shortage, see pages 320-324.

SAYS RECRUITS MUST BE TRAINED FOR ADAPTATION TO CLIMATE

A plan which he considers practical for training recruits to adapt themselves to climatic change without loss of military efficiency, a factor of utmost importance in maintaining the health and endurance of an army, is outlined in *The Journal of the American Medical Association* for Oct. 26 by Charles I. Singer, M.D., Long Beach, N. Y.

"Any plan for military preparedness based on a defense of this hemisphere," he declares, "would be incomplete without proper consideration for the rôle of climatic factors in American warfare. Adherence to the Monroe Doctrine may necessitate the sudden dispatch of troop units with considerable striking power sufficient to prevent invasion or to break enemy footholds in any part of the Americas. Extending from one arctic region to the other, the Americas present all types of climate and all varieties of climatic change. Diseases caused by abrupt climatic change or by prolonged exposure are manifold and constitute important problems of preventive medicine in warfare. Troop movements, therefore, must always carefully take into account the degree of climatic change involved lest the efficiency of the fighting force be considerably, even dangerously, impaired.

"By means of planned, gradual, repeated exposures, the limits of the individual comfort zone may be expanded—a process known as hardening. Through the hardening process the system acquires a direct defense mechanism against sudden and marked changes in the external environment, while the use of clothing and heating constitutes an indirect defense. It is not sufficient to adapt soldiers to sudden climatic changes alone. They must be able to endure prolonged climatic exposures associated with physical strain."

As examples of lack of stamina with good climatic adaptation, Dr. Singer cites the experience of the Russian soldiers in the recent war in Finland and of the French and English troops in the recent Norwegian campaign.

Abrupt climatic changes, the author says, may bring to the fore latent diseases such as tuberculosis, arthritis, heart disease, and respiratory infections. Such changes also tend to lower general resistance to acute infections. Direct defense against such changes must be made a major consideration in the training of recruits, he says, if the efficiency of the fighting force is not to be impaired. He recommends the creation of a special climatic advisory board comprising meteorologists, physicians, physiologists, physicists, chemists, and biochemists. The functions of this board would include establishment of standards of training by evaluating the results of training in climatic relationship, acting as consultants in troop movements, and setting up standards for distribution of convalescents to proper climatic milieus.

Dr. Singer also recommends that the training of recruits start in the fall of the year. "The gradual change to winter affords a parallel to gradual hardening by progressive exposure," he points out. "Recruits starting next April under the present conscription plan will require at least 10 months to obtain the adaptability acquired by the October group in 5 months.

"The entire system of training troops has been based on summer maneuvers in the North and winter maneuvers in the South. In my opinion this procedure should be completely reversed to provide troops trained for both extremes—subarctic rigor and tropical mugginess.

"Climatic adaptability can be furthered in training by frequently repeated hydrotherapy. The procedures to be recommended are surf or river bathing wherever possible, cool and gradually cooled showers as a part of the daily routine, and a douche apparatus with alternating hot and cold streams of water.

"A low average temperature of winter barracks, not exceeding 65 F., is recommended in training. The clothing of the new United States Army should be based on scientific selection with due consideration for the climatic requirements of the region in which it is to be used.

"Individual climatic endurance charts are recommended as aids in determining the adaptability of the soldier of whom special duties may be required. Artificially controlled climatic testing laboratories for testing such adaptability may be readily reproduced with modern air-conditioning apparatus. It will therefore be possible to select men for special tasks from among those who can adapt most quickly to changes in environment as observed in artificially controlled test rooms. Thus a yardstick on which to base the training of others will also be provided. Seven million dollars has been appropriated for an army aviation test station at Fairbanks, Alaska, to be ready in November, to study the behavior of airplane motors in arctic climates. This is a very necessary establishment, yet little provision has been made for testing the climatic adaptability of the most important military machine—the human body. Such tests should be conducted both at rest and during varying degrees of activity in different clothing.

"The Western Hemisphere includes every type of climate and every type of geologic milieu. If the possibility exists that troops may have to be sent to any of these sites, a larger body of troops especially trained for the climate must be organized. This applies at present more to troops needed in subarctic zones than to those for tropical use. Other acute needs envisage desert and mountain (high altitude) troops."

The climatogram, a graph by which the climates of different places may be compared, is extremely useful in warfare in estimating the extent of a climatic change involved in a military maneuver, the author suggests.

"The present climatic health resorts and spas can be used if needed for the rehabilitation of convalescents," he says. "Most of these resorts are located in salubrious climates. A climate void of extremes, sedative in character, is especially recommended for convalescents.

"Each climate has its optimal diet. It should be used as far as possible to enhance adaptation. A high fat, high protein, high calory diet is advisable in cold climates. A high carbohydrate, low fat and protein, low calory diet is advisable in tropical climates. The administration of mineral and vitamin pills is advisable in extreme climates, both arctic and tropical."

Each one of us, however old, is still an undergraduate in the school of experience. When a man thinks he has graduated, he becomes a public menace.—The Papers and Speeches of John Chalmers DaCosta, Philadelphia, W. B. Saunders Co., 1931, p. 50.

The man of worth is really great without being proud; the mean man is proud without being really great.

Minutes and Proceedings of the Ninetieth Annual Session

Philadelphia, Sept. 30 to Oct. 3, 1940

MINUTES OF THE HOUSE OF DELEGATES

Monday Afternoon, Sept. 30, 1940

The first meeting of the House of Delegates of The Medical Society of the State of Pennsylvania was called to order at 3:15 o'clock in the Clover Room, Bellevue-Stratford Hotel, Philadelphia, with Truman G. Schnabel, of Philadelphia, the Speaker of the House, presiding.

SPEAKER SCHNABEL: The meeting of the House of Delegates will please come to order.

J. K. WILLIAMS WOOD (Troy): Mr. Speaker, I wish to bring up a point of order.

The House of Representatives in Washington has a speaker who is a duly elected representative. The House of Representatives in Harrisburg has a speaker who is a duly elected representative. The House of Delegates of the American Medical Association has a speaker who is a duly elected delegate. I have looked over the list of delegates and alternates and our speaker is neither a delegate nor an alternate. Dr. Harris, our vice-speaker, is a duly elected delegate. I move that Dr. Harris be advanced to speaker for this meeting of the House of Delegates.

SPEAKER SCHNABEL: You have heard that motion. Is there a second?

JOHN J. SWEENEY (Highland Park): I second the motion.

SPEAKER SCHNABEL: The Chair will interrupt to call upon the chairman of the Committee on Credentials, and then we will entertain the motion made by Dr. Wood.

J. NEWTON HUNSBERGER (Norristown): Mr. Speaker, more than a hundred delegates have presented satisfactory credentials.

SPEAKER SCHNABEL: The chairman of the Credentials Committee declares that there are more than 20 delegates present. Therefore, this meeting of the House of Delegates is a part of the ninetieth session of The Medical Society of the State of Pennsylvania, and we can proceed with business.

We will now entertain the motion by Dr. Wood, of Bradford County. The Chair recognizes Dr. Wood.

DR. WOOD: I make a motion that Dr. Harris, who is a duly elected delegate of Allegheny County, be advanced to the speakership as the present speaker is not a duly elected delegate.

SPEAKER SCHNABEL: Is there a second to that motion?

JOHN J. SWEENEY (Highland Park): I second it.

SPEAKER SCHNABEL: The question before the House is on the right of the speaker to function, inasmuch as he is not a delegate duly elected.

JAMES H. CORWIN (Washington): Mr. Speaker, to the best of my knowledge there is nothing whatsoever in our constitution and by-laws to prevent anyone from becoming speaker of this House. The present speaker was duly elected by the House a year ago to serve for another term. To declare him elected illegally now is practically the same as impeaching him.

DR. WOOD: Mr. Chairman, under parliamentary procedure, when there is a tie vote, the speaker of the House can cast the deciding vote. We may have a person voting in this House of Delegates who is not a delegate.

THOMAS W. MCCREARY (Monaca): I note that the speaker of the House of Representatives of the United States of America does not have to be a member of the House of Representatives. I should think the same procedure might be followed by this House of Delegates.

SPEAKER SCHNABEL: Any further discussion? The secretary will read the by-laws on the subject.

SECRETARY DONALDSON: Mr. Speaker and Members of the House: Under Article VIII, Section 1, of the constitution, "The officers of this society shall be a president, 4 vice-presidents, a secretary, a treasurer, an assistant secretary, a speaker, and a vice-speaker of the House of Delegates."

Under the by-laws, Chapter 4, Section 2, "The speaker of the House of Delegates shall appoint 3 members as tellers who shall count the ballots under the supervision of the secretary. In the election of officers of this society, the secretary shall call the roll of members of the House of Delegates and each member as his name is called shall come forward to the speaker's desk and deposit his ballot."

Under Section 2 of Chapter 5, "Duties of Officers. The vice-presidents shall assist the president in the performance of his duties, and the speaker and the vice-speaker of the House of Delegates."

Section 5, Installation of Officers. "The officers of this society, except the president and the speaker and the vice-speaker of the House of Delegates, shall assume their duties at the close of the last meeting of the annual session at which they are elected."

Those are the only references to the speaker in either the constitution or the by-laws.

WALTER ORTHNER (Huntingdon): Mr. Speaker, prior to the time when we elected a speaker of the House, the House of Delegates was presided over by the president of the medical society, who was not necessarily a duly elected member of the House.

VICE-SPEAKER HARRIS: I should like to say a few words on these by-laws. I wrote them and think I know what is in them and what the intent was. Any reference to the speaker having to be a duly elected member of

the House of Delegates was deliberately omitted. There was no reason why he should be a member, any more than to require any officer of the State Society to be a member of the House of Delegates.

Regarding the question of the deciding vote being cast by the speaker if there were a tie, it is unlikely that such a situation would arise, but if it did, I should think that this House of Delegates would have confidence enough in the fairness of the speaker, having elected him to that position, to trust him to vote as he thought was right.

SPEAKER SCHNABEL: Any further discussion? The question, then, is on the right of the speaker to preside at the meetings of this House of Delegates in spite of the fact that he is not a duly elected delegate. . . . The motion is lost.

To facilitate the business of this meeting, the speaker respectfully requests that each member as he addresses the Chair, mention his name in clear voice and the county he represents. In addition, the speaker respectfully requests that all main motions, resolutions, and amendments be presented or submitted in writing preferably in triplicate, either to the speaker or the secretary.

On page 16 of the program for this session, there is published a tentative outline of business for this meeting. Unless there are objections, this order of business will be followed in this meeting of the House.

Unless there are objections from the floor, the roll call will be dispensed with.

The next item of business concerns itself with the approval of the secretary's minutes. We have 2 sets of minutes to approve today—one, those of the eighty-ninth session at Pittsburgh last fall, and the other the special session at Harrisburg, Feb. 28, 1940. Both of these minutes have been published in the *JOURNAL* of the society, one in December, 1939, and the minutes for the special session in February in the April, 1940, *JOURNAL*. No corrections or additions having been offered, they will stand approved as published in the official transactions of the society.

The next item of business is "Remarks by President Charles H. Henninger." Dr. Henninger!

PRESIDENT HENNINGER: Mr. Speaker, Members of the House of Delegates: My administration as your president began in the midst of the study and action by the 1939 House of Delegates regarding the future position of The Medical Society of the State of Pennsylvania toward putting into effect the responsibilities devolving upon the society with the enactment by the 1939 Pennsylvania Legislature of Act No. 399, the Enabling Act, and Act No. 398, which prescribes the duties, limitations, and rules connected with voluntary insured nonprofit medical service.

Interest in the outcome of the decision made in the name of the society at the special meeting of the House of Delegates, Feb. 28, 1940, may have been more recently overshadowed by the current demand for medical preparedness, but it still holds a claim on our individual interest.

The prospective problems and responsibilities devolving upon the medical profession of the state in connection with medical preparedness in co-operation with the American Medical Association and the representatives of national defense bodies, including the Surgeons-General of the United States Army, Navy, and Public Health Service are, however, very pressing and should be promptly met.

Medical Preparedness

With your kind permission, I will embody in these remarks at this point a brief summary of the activities to date of the Pennsylvania Medical Preparedness Committee.

At the suggestion of the Medical Preparedness Committee of the American Medical Association, your officers were appointed on the Pennsylvania Medical Preparedness Committee, and they proposed that your president should act as chairman of this committee. This was confirmed by the A. M. A. committee, and your committee now consists of Francis F. Borzell, M.D., Walter F. Donaldson, M.D., Charles H. Henninger, M.D., and as ex officio, Harvey B. Stone, M.D., of Baltimore, Maryland. The latter is the chairman of the Third Corps Area, comprised of Maryland, Pennsylvania, Virginia, and the District of Columbia.

The responsibilities devolving upon the committee have developed with great rapidity and members of the Board of Trustees conveniently located have been consulted by members of the committee at various times.

As of Sept. 28, 1940, 54 of the 60 county medical societies in Pennsylvania have responded to our written communications of Aug. 16 and Aug. 27 and our final telegraphic appeal of Sept. 24 for the prompt appointment of a preparedness committee to co-operate with our committee and the Committee on Medical Preparedness of the American Medical Association. The latter committee was created by the A. M. A. 1940 House of Delegates "to co-operate with the Council on National Defense, the Army, Navy, United States Public Health Service, and all other federal agencies in preparing our nation medically to meet any emergency."

The 5 points in the communication, which has been addressed to the presidents and secretaries of all component societies and the members of the various medical preparedness committees as appointed, briefly are as follows:

1. Several hundred Pennsylvania physicians, members of the Medical Reserve Corps, expect to respond to the call they have already received and to be actively in the service of our nation within the next 60 days.
2. In the above connection county preparedness committees may be consulted by representatives of the Council on National Defense regarding the alleged needs of local organizations, industries, institutions, or communities as set forth by medical reserve officers in asking deferment of their response to the call.
3. The urgent need of consideration by local and county physicians of the best means and methods to preserve the professional income and the practice of physicians responding to the call.

There is a definite desire on the part of the physicians of Pennsylvania to protect insofar as possible the interests of those who are called into service.

4. The wisdom of following throughout Pennsylvania the example set by the Philadelphia County Medical Society by conducting programs of instruction helpful to physicians, dentists, nurses, and others desiring to learn of their personal duties, civil or military, should a national emergency be declared.
5. The wisdom of anticipating in each county a request to recommend to the state committee at least one physician for the consideration of state and Federal authorities as an appointee to assist each selective service board created in the county.

As our committee reports to the committee of the American Medical Association (your president as chairman having attended on Sept. 20 an all-day session in

Chicago with the A. M. A. committee, the various Surgeons-General, and representatives of 40 other state preparedness committees), so we now solicit the support of this House of Delegates in requesting the officers and chairmen of the various county medical preparedness committees to continue to report to and through the Pennsylvania Medical Preparedness Committee.

At this point, owing to the urgency of a demand concerning which you will hear a little later, I move that the House of Delegates accept and approve this report on medical preparedness in Pennsylvania.

SPEAKER SCHNABEL: The House has heard the motion, on the part of President Henninger, that the portion of his report pertaining to medical preparedness and the functioning of his committee be approved.

The motion is seconded and carried.

PRESIDENT HENNINGER: Thank you, gentlemen. The 9200 members of The Medical Society of the State of Pennsylvania recently received a post card dated Sept. 13, 1940, requesting prompt completion and forwarding to the A. M. A. headquarters in Chicago of the questionnaire distributed early in August to more than 13,000 physicians in Pennsylvania. Regardless of age, physical conditions, previous training, or family ties and responsibilities, it is of the utmost importance that we all, including the more than 4000 physicians in Pennsylvania who are not members of this society, complete and return the A. M. A. questionnaire and also urge all other physicians to do likewise.

Although this request has been before our membership for a considerable period of time, on our last report, Sept. 20, 1940, only 50.2 per cent of physicians in Pennsylvania had responded to this request.

Other unsolved and important problems have been before the Board of Trustees and the general officers of your society throughout the fiscal year just closing and will be brought to the attention of the 1940 House of Delegates at this session.

Intern Supply Failing

Among these is the pressing question of reconciling as nearly as possible the differences between the demand for and the available supply of interns for service in the hospitals of Pennsylvania. The difference between the number of medical school fourth-year students and the intern vacancies occurring in acceptable hospitals has been growing rapidly in recent years. Three years ago your Board of Trustees gave every attention possible to this question and finally submitted a brief stating its position and recommendations to the then attorney-general of Pennsylvania.

In July of this year a new committee representing our society was appointed to confer with Attorney-General Reno and later with the State Board of Medical Education and Licensure, and at the conclusion of their conferences they recommended that the chairman of the State Board of Medical Education and Licensure, Irvin D. Metzger, M.D., of Pittsburgh, be invited to discuss the situation with this House of Delegates. Accordingly, Dr. Metzger has been invited and has accepted, and in anticipation of the plans of this House he has been requested to hold himself in readiness to appear before the House on Tuesday morning, Oct. 1.

This is really a very important question, because the status of the interns in our hospitals at the present time is still a question of doubt in regard to medical preparedness.

I am going to ask for Dr. Metzger the privilege of the floor of this House of Delegates tomorrow morning to explain the stand of his department on this important question.

SPEAKER SCHNABEL: What does the House wish to do?

CHARLES L. SHAFER (Kingston): Mr. Speaker, I move that Dr. Metzger be granted the privilege of speaking before the House tomorrow.

CURTIS C. MECHLING (Pittsburgh): I second the motion.

FORMER PRESIDENT ARTHUR C. MORGAN (Philadelphia): I rise for information as to whether that invitation extended to Dr. Metzger is for Tuesday morning or Tuesday afternoon, and whether or not the session will be an executive session.

SECRETARY DONALDSON: That invitation was extended for Tuesday morning, confirmed no later than last Saturday. Dr. Metzger expressed his acceptance provided he did not hear from us to the contrary.

SPEAKER SCHNABEL: I think the nature of tomorrow morning's meeting can be cared for in the motion for adjournment.

The motion was carried.

PRESIDENT HENNINGER (continuing): During my previous incumbency as a member of the House of Delegates of The Medical Society of the State of Pennsylvania, I have heard more than one retiring president of our State Society recount to the House of Delegates his experiences while serving as president. I can at this time but echo most of those reports, and express the regret that the privileges connected with the office can come to but one of our more than 9000 members in each year. The hospitality with which I have been received and the acquaintanceships which I have made or renewed in so many of our component societies, as well as at many councilor district meetings, the evidences I have witnessed of earnestness on the part of the Board of Trustees and councilors, as well as county society officers and the State Health Department officers, are so effective as to lead me to restate that which you may have heard before; namely, that total unity and continued progress in our organization as always depend finally upon the efforts of the individual members.

Now, may I call your attention to an urgent request that was received by your Medical Preparedness Committee about 11 o'clock today, and transmitted to your Board of Trustees from the Governor of this Commonwealth, through Dr. Francis F. Borzell, a member of our committee.

I wish to call on Dr. Borzell at this time as a member of the Preparedness Committee to go more into detail so that everyone will understand the urgency of the Governor's request and the help your officers will need from all of you. This may not give us sufficient time to make the selections that we might wish to make, but we will do the best we can.

SPEAKER SCHNABEL: The Chair recognizes Dr. Borzell.

Governor's Urgent Request

PRESIDENT-ELECT FRANCIS F. BORZELL (Philadelphia): Mr. Speaker, you have heard Dr. Henninger speak of the conversations that we had with the Governor. At the request of the committee, I saw the Governor a little less than a week ago. The conference was arranged through the kind offices of Secretary of Health

Shaw and I offered the facilities of The Medical Society of the State of Pennsylvania to the Governor in the way of suggesting names for the examining physicians to be connected with the draft boards and with the medical advisory committees.

At that conference we soon found that the details concerning the rules and regulations to govern draft boards were still somewhat hazy. The Governor then asked me to phone him on Tuesday (tomorrow) to receive the final answer as to the status of the examining physicians and the mode of appointment. The question also came up as to whether or not the examining physician was to be ipso facto a member of the draft board.

This morning, 24 hours before this telephone appointment, the Governor called from Harrisburg and told me that he had confirmation from Washington that the examining physician of the draft board is not ipso facto a member of the board. A physician may be a member of the board, as a citizen, but that did not constitute him the examining physician. The examining physician will report on the physical condition of the draftee and will report to the board for its guidance in connection with other qualifications it must consider.

The Governor then asked how soon we could give him 3 names for consideration in each appointment. I said we could do it best within a week. The Governor very promptly stated that he needed the names within 24 hours.

The Governor of the state having shown his willingness to have The Medical Society of the State of Pennsylvania make suggestions as to well-qualified physicians for the draft boards, the medical society must respond very rapidly; that is, by tomorrow afternoon. The Governor gave us to understand clearly that not all those recommended will be appointed, but he wants suggestions.

That will necessitate the establishment of machinery that will produce 3 names for each of about 425 draft boards. The geographic composition and distribution of these draft boards will be available at 4 p.m.

The Board of Trustees was in session this morning at the time Governor James phoned, and we presented to it a proposal that the 12 district councilors be made responsible for gathering together the delegates and others present from the various county societies comprising their respective districts, and that they then meet immediately after this session adjourns in rooms to be set aside for them. Then, provided with a copy of the geographic distribution of these draft boards in the various counties, you, together with your councilor, will please name 3 qualified men, preferably general practitioners—the councilors will go into detail with you concerning that—so that we may, at a special meeting of the Board of Trustees to be held at 10:30 tonight, finally conclude this matter and send the list by special messenger to Governor James tomorrow.

There will be no compensation for the examining physicians, none for the members of the draft boards, and none for the medical advisory boards, which will be appointed later.

We urgently impress upon you that every delegate present should attend his own caucus so that this matter may be facilitated.

SPEAKER SCHNABEL: The Chair recognizes Dr. Donaldson.

SECRETARY DONALDSON: May I suggest that each of you take pencil and paper and jot down the number of the room in which you will meet with the trustee and councilor for your district after this meeting adjourns.

And please understand that it is the wish of the members of the Board of Trustees and your councilors that every member here from the counties in the various districts attend, whether or not they are delegates. You are all invited.

Secretary Donaldson then announced the room numbers.

SPEAKER SCHNABEL: If there are no more questions or discussions, the Chair recognizes Dr. Donaldson, who will announce reference committee appointments as made by the incoming president, Dr. Borzell. The secretary has other announcements to make also.

SECRETARY DONALDSON: Mr. Speaker and Members of the House, on page 18 of the Handbook you will find the list of reference committees as appointed by Dr. Borzell.

COMMITTEE ON CREDENTIALS

J. Newton Hunsberger, Norristown, *Chairman*
Clinton J. Kistler, Lehigh
C. W. Ashley, Bloomsburg

REFERENCE COMMITTEE ON REPORTS OF OFFICERS AND STANDING COMMITTEES

Henry T. Price, Pittsburgh, *Chairman*
Charles N. Sturtevant, Philadelphia
James D. Stark, Erie

REFERENCE COMMITTEE ON SCIENTIFIC BUSINESS

William J. Armstrong, Butler, *Chairman*
Thomas R. Gagon, Pittston
Frank W. Konzelmann, Philadelphia

REFERENCE COMMITTEE ON NEW BUSINESS

Eugene P. Pendergrass, Philadelphia, *Chairman*
Francis J. Conahan, Bethlehem
George L. Lavery, Harrisburg

COMMITTEE ON PLACE OF MEETING

Joseph Scattergood, Jr., West Chester, *Chairman*
Frank P. Lytle, Birdsboro
Ward O. Wilson, Clearfield

We have provided rooms, and those rooms remain available for the reference committees on the first floor in spite of arrangements for 12 other meetings.

If any delegate has not signed the attendance slip passed around by the page, I hope he or she will not leave the room before signing such slip, which is the record of attendance at this particular meeting of the House.

SPEAKER SCHNABEL: The House will now proceed to a consideration of the reports of officers. These reports have been published in the current number of the JOURNAL, and there are available to you, also, booklets containing these reports of the officers and trustees.

HUGH E. MCGUIRE (Pittsburgh): I move that the reports be accepted as published in the JOURNAL.

The motion was seconded.

SPEAKER SCHNABEL: The Chair will recognize Dr. Donaldson.

SECRETARY DONALDSON: I would like to say that following the usual custom the president has already allotted these published reports to the various reference committees. They have been in the hands of the members of the reference committees, subject to study, for at least 12 days. I know Dr. McGuire wishes to cut short any unnecessary formality. He should make a

motion that the House approve the president's earlier assignment of published reports to reference committees.

DR. MCGUIRE: Mr. Speaker, I so move.

SPEAKER SCHNABEL: It has been moved and seconded that the published reports of the general officers, the Board of Trustees and 12 district councilors, and the reports of standing and special committees be considered by reference committees as tentatively referred to them previously by the president.

SPEAKER SCHNABEL: The motion is carried.

This action does not preclude any chairman or officer of the society from now or later presenting supplementary reports. Are there any such to be made?

CHAUNCEY L. PALMER (Pittsburgh): The Committee on Public Health Legislation has a supplementary report which we desire the privilege of presenting at tomorrow morning's session if it meets with the wishes of the House.

SPEAKER SCHNABEL: If there are no objections, Dr. Palmer, you may present this report tomorrow morning.

THOMAS R. GAGION (Pittston): The original report of the Committee on Public Health Legislation has already been referred to the Reference Committee on Reports of Officers and Standing Committees. Would it not expedite the business if the supplementary report were now referred to that committee for their report tomorrow morning?

SPEAKER SCHNABEL: Dr. Palmer, it has been suggested that your supplementary report in turn go right to the proper reference committee this afternoon.

DR. GAGION: That is only a suggestion. If Dr. Palmer wishes to discuss this in executive session, it is quite all right.

SPEAKER SCHNABEL: If Dr. Palmer is agreeable and there are no objections, the supplementary report will not be read but go direct to the reference committee of which Dr. Price is chairman.

LEWIS T. BUCKMAN (Wilkes-Barre): Mr. Speaker, in addition to the annual report and the one supplementary report which have already been published, our Committee on Medical Economics has a further supplementary report, the result of our meeting held last night. Do you want this read or simply referred to the reference committee?

SPEAKER SCHNABEL: If there are no objections, it will go to the Reference Committee on New Business, Dr. Pendergrass chairman. It is so ordered.

SECRETARY DONALDSON: There is no correspondence.

SPEAKER SCHNABEL: We will now proceed with new business.

The Chair recognizes Dr. Brown of Berks County.

HAROLD I. BROWN (Reading): I wish to present a resolution to the House of Delegates as chairman of the Section on Clinical Laboratory Medicine:

In accordance with the resolution presented to the House of Delegates of the American Medical Association (*J. A. M. A.*, Vol. 114, No. 25, p. 2478), and the resultant action thereon (Vol. 114, No. 26, p. 2558), the following resolution is respectfully presented to the 1940 House of Delegates of The Medical Society of the State of Pennsylvania by the Section on Clinical Laboratory Medicine:

RESOLUTION

WHEREAS, The House of Delegates of the American Medical Association has passed a resolution urging the state medical

societies to attempt to limit the type and extent of services offered by the State Department of Health laboratories and that such services should be confined to requests made by health officers and by physicians attending the medically indigent; and WHEREAS, The officials of the Pennsylvania Department of Health feel that an undue number of requests are being received from certain private physicians whose patients are not medically indigent; and

WHEREAS, There are 41 counties which have no laboratories approved by the State Board of Medical Education and Licensure. Laboratories exist in all but 7 counties, but many are shown to be incompetent by the results of the serologic testing by the State Department of Health; and

WHEREAS, Recent enactment of law requires the approval of laboratories for specific purposes; and

WHEREAS, Many laboratories have insisted on the pre-existing fee of \$5.00 for premarital serologic examinations, thus necessitating a high percentage of medical indigency; be it hereby

Resolved, That each county medical society will appoint a laboratory committee consisting of at least 3 members, one of which is to be a pathologist whenever possible, to co-operate with the officers of the Section on Clinical Laboratory Medicine of The Medical Society of the State of Pennsylvania and the officials of the State Health Department in the solution of the local laboratory problem and for the following specific purposes:

1. To correct the uses and abuses of laboratory facilities offered by "free" tax-supported laboratories.

2. To revise serologic fees where indicated.

3. To encourage the development of adequate, competent laboratories.

4. To act as an appointee for the State Health Department to aid in the evaluation and approval of laboratories in accordance with the recommended standards of that department, a nominal fee to be paid for this service which will give the committee a legal standing.

SPEAKER SCHNABEL: This resolution will be referred to the Reference Committee on Scientific Business.

The Chair recognizes Dr. Quinn.

ELWOOD T. QUINN (Jenkintown): Resolution on the quarantine of German measles:

RESOLUTION

WHEREAS, German measles, a disease of no consequence, is a quarantinable disease, and

WHEREAS, It causes more parental mental anguish and school loss to contacts than any other quarantinable disease because of its long period of incubation, and

WHEREAS, Occurring late in the spring, it prevents many contacts from taking their final school examinations and their college entrance examinations, and

WHEREAS, An isolation period of 16 days is punishment; therefore, be it

Resolved, That The Montgomery County Medical Society earnestly requests the State Society to urge the Medical Advisory Committee to the State Department of Health to abolish the quarantine on German measles, thus conforming to the practice of other state departments of health.

SPEAKER SCHNABEL: Referred to the Reference Committee on Scientific Business.

STANLEY P. REIMANN (Philadelphia): When President Franklin D. Roosevelt was in Philadelphia recently at the bicentennial of the University of Pennsylvania, the suggestion was made by him that Mr. John B. Kelly, of Philadelphia, be appointed chairman of a committee to stimulate the interest of the people of the country in becoming physically fit. Mr. Kelly asked that the Philadelphia County Medical Society go on record in one way or another in regard to this particular program, whereupon the directors of the county medical society passed a resolution of similar effect. They now request that the following be considered by this House of Delegates:

RESOLUTION

WHEREAS, Physical fitness of the individual is a characteristic to be desired, both in times of peace and war, and

WHEREAS, The medical profession has always sought to educate individuals to achieve physical fitness and through its services to make it available to as many individuals as possible; therefore, be it

Resolved, That The Medical Society of the State of Pennsylvania endorses a proper program for stimulating the people of Pennsylvania and the nation to increase their efforts to become physically fit. It recommends unequivocally that any activities directed to this end shall be with the counsel of members of the medical profession.

SPEAKER SCHNABEL: Referred to the Reference Committee on New Business.

DR. REIMANN: I have another resolution, Mr. Speaker. Again the directors of the Philadelphia

County Medical Society passed a resolution in regard to locum tenens in the event of physicians being called to war service, and recommended that this be brought to the attention of this House of Delegates.

RESOLUTION

WHEREAS, Military preparations now contemplated in this country and the possibility of war may require the use of large numbers of medical practitioners; therefore, be it

Resolved, That The Medical Society of the State of Pennsylvania adopt a plan which will adequately protect the health of the civilian population of this state and at the same time protect the health of the civilian members of the State Medical Society, who, voluntarily or otherwise, serve in one of the armed forces of this country.

The House of Delegates of The Medical Society of the State of Pennsylvania realizes that it is of the greatest importance that the civilian population receive adequate medical attention at all times, and makes the following suggestions:

1. The component county medical societies, together with representatives of the State Society, should see that the medical needs in each section of the state are constantly being fulfilled.

2. It is the opinion of the House of Delegates of this society that where physicians are called in for medical care to a family whose income has been greatly reduced by conscription or enlistment of the major wage-earner of the family, the fees for medical services should be adjusted in proportion to the reduction in income.

In order that those who serve in the armed forces of this country may be properly protected during and after the emergency, the House of Delegates of The Medical Society of the State of Pennsylvania makes the following recommendations:

That as soon as a physician determines he is to serve in one of the armed forces, arrangements be made with another practitioner to take care of his practice.

That the locum tenens agree to the following arrangement:

The moneys collected from patients who have been turned over to the locum tenens shall be placed in a separate fund. After deducting the amount necessary to cover overhead, the remaining fund shall be divided on a 50-50 basis.

That all institutional, teaching, and industrial appointments held by the practitioner at the time he enters military service shall be made available to him when he returns from the service.

That during the period of military service of any member of the State Medical Society, that portion of the annual dues now retained by the society shall be remitted.

SPEAKER SCHNABEL: This resolution, too, unless there are objections from the floor, will be referred to the Reference Committee on New Business. If there are no objections, it is so ordered.

DR. REIMANN: I have one more, Mr. Speaker.

RESOLUTION

The House of Delegates of The Medical Society of the State of Pennsylvania desires to go on record as approving the following principles which should characterize any ward service plan of hospitalization.

1. Approval of a Ward Plan if and when all the member hospitals recognize the ward subscriber patient as one who is not an object of charity or of partial charity, but as one who pays the hospital for his hospital service and pays his physician for his medical services, even though both services be furnished at reduced rates.

2. Disapproval of a Ward Plan until such time as all the member hospitals have recognized the idea expressed in Resolution No. 1, because, with different hospitals having different rules concerning the furnishing of medical care to ward patients, the proposed Ward Plan would be manifestly unfair to the public, the subscribers, the Associated Hospital Service of Philadelphia, the member hospitals, and the physicians of those hospitals.

(a) So long as, from long usage and custom, the general public looks upon a ward patient whether free, partial paying, or full paying—as a ward of the hospital who obtains free medical care, unless a definite general statement is made that the subscriber to the Ward Plan must pay for his medical care, the public will expect him to receive free medical care and will feel that he has been deceived and defrauded if he fails to receive it, no matter what the contract may say as to the rules prevailing in each hospital.

(b) For the same reason, the subscriber to the Ward Plan will feel that he has been defrauded when he is asked to pay for his medical care.

(c) The harm that will come to the corporation offering the insurance service from the criticism of the general public and the subscribers, when they learn from experience rather than from the wording of their contracts that the Ward Plan does not cover medical services in every case, will more than overbalance any good the corporation offering the insurance service may receive from the Ward Plan.

(d) When the public and the subscribers come to know which hospitals give free medical services under the Ward Plan and which do not, they will tend, under such plan, to patronize exclusively those that give free medical care, to the detriment of the other hospitals.

(e) In consequence of the foregoing, physicians connected with hospitals that permit their medical staffs to charge such ward patients may be denied the opportunity to treat subscribers to the Ward Plan even if they be their private patients.

3. Adoption of a policy that classifies those now designated as full-pay ward patients, and to be designated as ward plan subscriber patients, with the private patient group rather than with the ward patient group.

4. Adoption of a new designation for the full-pay ward patient, eliminating the word "ward," which connotes in most minds that the patient is a ward of the hospital and entitled to free treatment.

5. Requesting the board of management and the medical staffs of all the hospitals being asked to participate in the Ward Plan: (a) To recognize that those now designated as full-pay ward patients and those to be designated as Ward Plan subscriber patients are not objects of charity or of partial charity.

(b) To classify those now designated as full-pay ward patients and those to be designated as Ward Plan subscriber patients with private patients and not with ward patients, whom custom and usage have long regarded as wards of the hospital entitled to free medical treatment.

(c) Not to require their medical staffs to furnish free treatment to those now designated as full-pay ward patients and those designated herein as Ward Plan subscriber patients, but to permit them to make a charge, which may be at a reduced rate.

LEWIS T. BUCKMAN (Wilkes-Barre): The latter part of the supplemental report just filed with you by the Committee on Medical Economics covers these resolutions; consequently, if our report is referred to the Committee on Reports of Officers and Standing Committees, that is where this should go, and not to the Reference Committee on New Business.

SPEAKER SCHNABEL: The Chair recognizes the propriety of that suggestion. Then these resolutions will go to the Reference Committee on Reports of Officers and Standing Committees. Any objections? It is so ordered.

J. HART TOLAND (Philadelphia): I am offering this resolution at the request of a group of physicians.

RESOLUTION

WHEREAS, Nutrition and deficiency diseases are becoming more important in the field of medicine, and

WHEREAS, Notable advances have been made in the biochemistry, physiology, pathology, clinical recognition, and treatment of deficiency diseases, and

WHEREAS, A group of physicians, members of this society who are especially interested in this field, desire to perfect an organization known as the Committee on Nutrition to disseminate known and accepted facts and methods to the profession and to laymen; therefore, be it

Resolved, That the House of Delegates of the 1940 session of The Medical Society of the State of Pennsylvania approve the creation of a committee for this purpose.

SPEAKER SCHNABEL: Referred to the Reference Committee on New Business.

T. LAMAR WILLIAMS (Mt. Carmel): Mr. Speaker, I have a resolution to introduce at the request of our society.

RESOLUTION

Resolved, That the Schuylkill County Medical Society in session assembled this tenth day of September, 1940, does hereby instruct our delegates to the House of Delegates of the State Medical Society that they respectfully urge and demand that said State Medical Society do all it possibly can to have the medical profession paid in full from now on for all services rendered Public Assistance cases.

SPEAKER SCHNABEL: Referred to the Reference Committee on New Business.

WALTER S. CORNELL (Philadelphia): Mr. Speaker, 2 years ago, because of the concern on my part for the welfare of the family physician, I distributed a questionnaire to physicians in Philadelphia, and turned over the replies in summary to the 1938 House of Delegates. It was reviewed during 1940 by the Committee on Medical Economics, which I think has made a very fine report. That report is 2 pages long appearing here in the pamphlet.

Now, what I want to call attention to today is this: In Dr. Buckman's committee report, he gave a great deal of attention to the second phase of my questionnaire; namely, the need of free diagnostic laboratory facilities in hospitals so that the neighborhood family practitioner can practice modern medicine the right

way, and I am very, very glad his committee made its own state-wide study. I hope all will read it.

It occurred to me when this hospital ward insurance plan was discussed a moment ago that certainly if any patient ever went into a hospital ward, his family physician could never follow him there. I was wondering, therefore, if the Philadelphia resolution shouldn't be referred direct to the Committee on Medical Economics.

DR. BUCKMAN: Mr. Speaker, perhaps our committee's supplemental report filed this afternoon should have been read. May I read it?

SPEAKER SCHNABEL: The Speaker agrees, if there is no objection on the part of the House.

Insured Hospital Ward Service

DR. BUCKMAN: Unfortunately, a good bit of this supplemental report repeats what you have already heard from Dr. Reimann. The following, however, covers our committee's consideration at its meeting last night. I quote:

The several component county societies within the district where the Associated Hospital Service of Philadelphia sells its contracts have studied the implications involved in the proposition of the insurance association to sell a low-cost contract offering ward service in addition to semiprivate care. The matter was referred to the Committee on Medical Economics by the Chester County Medical Society. It has been the subject of study by representatives of the Medical Societies of Delaware, Montgomery, Bucks, Chester, and Philadelphia counties of Pennsylvania and Camden and Burlington counties of New Jersey. The Subcommittee on Prepaid Medical Service Plans of the Committee on Medical Economics of the Philadelphia County Medical Society has made definite recommendations to the Board of Directors of the Philadelphia County Medical Society, which in turn approved on Sept. 28, 1940, the resolutions suggested by the aforesaid subcommittee.

The problem appears to be unique in this district about the City of Philadelphia, inasmuch as elsewhere in the state it was reported to us that no question was raised by the hospital management as to the right of the private practitioner to charge for his service rendered to patients who are resident in a hospital under his care at the rate and enjoying the facilities of the type of service known as ward care.

Your Committee on Medical Economics recommends that the 1940 House of Delegates approve the resolutions adopted by the Committee on Medical Economics and the Board of Trustees of the Philadelphia County Medical Society, a copy of which has been placed in the hands of each delegate and alternate delegate.

We further recommend that the Committee on Medical Economics of each component county medical society intervene in behalf of the medical profession of that county in any instance where it is known that a hospital does not permit regularly licensed physicians to collect their private fees from their patients hospitalized in such hospital, whether the patient be private, semiprivate, or private ward, and when the patient or some third party pays the hospital for the expenses of that patient's hospitalization.

Mr. Speaker, I asked for the privilege of reading this action simply so that you may know that the Committee on Medical Economics has considered this problem which was laid before it only within the past week or 10 days, and while I appreciate that this may not be the time for debate of the question, the delegates should know that it has already been considered carefully by our committee, and it would therefore be a waste of time and effort to refer it back to the committee at this moment.

SPEAKER SCHNABEL: The subject of Dr. Cornell's request has been adequately treated. It would be well to consider now the amendments which were proposed last year. They appear on page 1 of the Official Transactions of the State Medical Society. What is your pleasure with respect to the first amendment—Chapter VI, Committees, Sections 1 and 5?

1. An amendment offered by the Reference Committee on Reports of Officers and Standing Committees.

Chapter VI—Committees. Sections 1 and 5—Change the name of the Committee on Society Comity and Policy and delete that portion of the first paragraph of Section 5 describing its intersociety functions. If the amendment is adopted, Section 5 will read as follows:

The Committee to Nominate Delegates and Alternates to the House of Delegates of the American Medical Association shall consist of 5 members.

It shall be the duty of the committee, after careful consideration, to submit to the House of Delegates a list of nominees for delegates and alternates to the House of Delegates of the American Medical Association. These nominations shall not preclude nominations from the floor of the House of Delegates.

THOMAS R. GAGION (Pittston): I move its adoption.

T. LAMAR WILLIAMS (Mt. Carmel): I second the motion.

SPEAKER SCHNABEL: The amendment is adopted.

SECRETARY DONALDSON: The second amendment is an amendment necessitated as a result of a resolution offered by the Carbon County Medical Society to the 1939 House of Delegates for the removal of Carbon County Medical Society from the Twelfth Councilor District to the Third District.

SPEAKER SCHNABEL: The Chair would like to ask if Councilors Brennan or Mayock are present to discuss this motion. The Chair recognizes Dr. Peter P. Mayock, trustee and councilor for the Twelfth District.

The amendment proposed would transfer Carbon County Medical Society from the Twelfth Councilor District and replace it in the Third Councilor District.

DR. MAYOCK: The reason given for the transfer of the Carbon County Society was that it is too far for the members to travel to the annual councilor district meeting. For the 2 years that I have been councilor of the Twelfth District we held the meeting in Dallas, which is possibly 50 miles from Mauch Chunk, the county seat of Carbon County. The 1940 meeting was a joint meeting of the Third and Twelfth Councilor Districts, and was also held at Dallas. So if Carbon is placed in the Third Councilor District, its members might still be traveling 50 miles to Dallas.

This is a matter, of course, entirely for the House to decide, but if you will read my report addressed to this House, you will find that the Twelfth Councilor District includes Bradford County; members from that society travel 90 miles to our annual meetings held at Dallas, and during the 3 years I have been councilor for the district the Bradford County Society has had the greatest proportion of attendance of any society in the district. After all, the district meeting is held but once a year, and it could be held in Carbon County if that society believed it could support the meeting with adequate attendance.

CLINTON J. KISTLER (Lehigh): I represented the Carbon County Society in bringing this petition before the 1939 House of Delegates. The distance involved is not the chief reason for desiring a change. Previously, we belonged in the Third Councilor District, but when the re-division was made in 1937, we were placed in the newly created Twelfth District, completely out of our usual territory where we know the men and always feel more or less at home. I don't think from the few men whom I have learned to know that there could be a finer group than those in the Twelfth District. We are simply asking to go back where we feel more at home, and where it will be more convenient. It is a matter of simplification; there is no other reason whatever. It is for the House to decide.

SPEAKER SCHNABEL: The question is on the adoption of this amendment. . . . The amendment is adopted.

DR. GAGION: A point of information. Will the secretary please read the part of our constitution that has to do with the citizenship of members in this society?

SECRETARY DONALDSON: Section 1, Article IV. Membership. "The membership of this society shall

consist of citizens of the United States, members in good standing in the component county medical societies and whose annual assessments in this society have been paid. This, however, shall not be construed to exclude from active membership any physician who may occupy a teaching position within a college or university within this state. Physicians otherwise qualified who have taken their first citizenship papers shall be eligible to membership. This membership is conditional upon the completion of citizenship within 6 years of the granting of first papers. Failure to comply with this provision will automatically terminate membership."

DR. GAGION: I believe, Mr. Secretary, that amendments to the by-laws must be published in the preceding JOURNAL.

SECRETARY DONALDSON: Yes, but the by-laws with unanimous consent may be amended after 24 hours' layover. An amendment to the constitution requires one year's layover.

DR. GAGION: I move at this time that we adjourn to reconvene tomorrow morning in this room at 9:30 in executive session.

CLARENCE J. McCULLOUGH (Washington): I second the motion.

The motion was carried, and the meeting adjourned at 4:50 o'clock.

CHARLES H. HENNINGER, *President*,
TRUMAN G. SCHNABEL, *Speaker*,
WALTER F. DONALDSON, *Secretary*.

Tuesday Morning, Oct. 1, 1940

The second session of the House of Delegates convened at 9:45 o'clock, Speaker Schnabel presiding.

SPEAKER SCHNABEL: Inasmuch as this meeting was called in executive session, the Speaker will take the privilege of appointing sergeants-at-arms. He appoints Drs. John B. McMurray, of Washington, and John J. Sweeney, of Highland Park. We will recess for 2 minutes while they determine that none are present who have no right to be.

A brief recess was taken.

SPEAKER SCHNABEL: The sergeants-at-arms report that only duly elected delegates or qualified officers of state and component societies are present.

If there are no objections, the roll call will be dispensed with.

If there are no objections, the reading of yesterday's minutes will be dispensed with.

In accordance with the motion passed at yesterday's meeting of the House of Delegates inviting Dr. Metzger to address the House this morning, the Chair recognizes Dr. Metzger.

IRVIN D. METZGER, Chairman, Pennsylvania Board of Medical Education and Licensure: Mr. Speaker and Members of the House of Delegates: I assure you it is a privilege and honor to appear before you this morning in behalf of the State Medical Board. I am particularly pleased that this discussion shall take place before your group, because you are in a position to carry back to your various counties the reports which may be presented, also the discussion on matters that we hope to present.

Intern Shortage

During the past few years there has arisen a shortage in the number of available applicants for the needs of

the hospitals in the state which are approved for internship. A study of this situation has concerned the State Board of Medical Education and Licensure for several years, and now has become so evident as to elicit the concern of all far-seeing physicians of the commonwealth. A conference by representatives of your society with the State Board recently brought out certain salient facts which the chairman of the board was asked to bring before your organization for enlightenment and discussion. This accounts for my presence before you today.

Up to about 5 years ago the number of applicants for internship was adequate and somewhat excessive for the needs of our hospitals. It became necessary then to ask the hospitals to give preference to prospective licentiates from within the state, other things being equal.

It has been the policy of the board for some time to ask hospitals to report by the beginning of the intern year the names, addresses, and schools of graduation of all the interns engaged, also information as to whether the applicants desire later to enter practice in Pennsylvania. I may say that this has been done very faithfully. It gives us a record of the interns in service in the state. One hospital particularly was rather indignant that we should ask whether its interns intended to practice in the state. The reason given was that they wanted to decide for themselves what interns they wanted, irrespective of the matter of place of licensure. They took interns from all over the United States, which of course was their privilege.

When we explained to them why we thought they ought to give preference to prospective licentiates of Pennsylvania, they thought that we had no right to concern ourselves with that matter.

The retort was made by the board that if they were not concerned in training interns for the fifth year of medical education, the board had no reason to be concerned about keeping their hospital on the approved list. Since that time they have reported as have other hospitals.

Productive Factors

Two factors have been peculiarly effective in producing the present situation. First, an amendment to the Pennsylvania Medical Practice Act requiring citizenship, or at least a declaration of intention to become a citizen. Of all the foreign graduates eliminated, those most affected were the Canadian graduates who formerly sought internships in our hospitals. Second, the increasing number of hospitals in other states which qualified under the Council of the American Medical Association for approval of internships reduced materially the number of applicants available for internship in Pennsylvania.

For a number of years we had quite a number coming into Pennsylvania because of our organized form of internship. We don't have so many of those now.

The number of internships available in approved hospitals in Pennsylvania is about 600, and this status has not changed materially during the past decade. The number has been slightly reduced. It has been the policy of the board to eliminate the less worthy hospitals, especially those that could offer an apprenticeship training only in some elective portion of the rotational course required by law.

The Unlicensed Resident

A considerable amount of confusion and discussion has arisen lately in medical circles in respect to the

limitations placed upon unlicensed physicians who desire to serve as residents in hospitals, or as continuous interns, or as graduate students. These limitations, although formerly existent, were made imperative by amendments to the Medical Practice Act which were passed by the legislature and became effective Sept. 1, 1935. Their administration by the board has irritated those whose habits have been less meticulous in respect to observance of the law and whose plans have been thwarted.

A history of the situation existing before the more positive efforts to enforce the elaborated law will be interesting, and will show the need for more critical enforcement. In many state institutions, as well as in private ones, unlicensed physicians were caring for patients year after year under the guise of supervision by some medical director who may have been licensed in the state. Strangely enough, some of the directors were not licensed even though they assumed direct or indirect responsibility in the case of patients in the institutions over which they had jurisdiction. As vacancies occurred, our state employed itinerant physicians to help out. Many of these were incompetent physicians who could not secure licensure or who may have failed in private practice elsewhere. The low compensation for which they were willing to work appealed to those who were concerned in annual budgets.

Investigation showed that there was practically no supervision over these physicians, and what was claimed to exist proved to be of the long-arm type; this was not only futile in effect but misleading in practice. In the case of a private institution for tuberculosis, an unlicensed thoracic surgeon was employed with a salary and worked for 6 months under the ostensible supervision of a licensed staff physician who lived nearly a hundred miles away, and who visited the institution only at infrequent intervals. In most institutions each of the various physicians employed was held specifically responsible for certain groups of patients and certified to or signed all legal documents respecting his wards.

State Law Violated

The flagrancy of this law violation became more evident as each unlicensed physician was forced to qualify under the Medical Practice Act. It was found that some had never been licensed in any state and could not qualify for licensure in our state. One physician who was a graduate from one of the leading medical schools in the United States, and who had served as pathologist for some 12 years in one of our hospitals for mental diseases, was declared, after a rather searching examination by an outstanding pathologist, to know less about laboratory technic and of laboratory needs or values than the average physician in general practice. After his failure in examination, he was promptly ousted from his position and from the state.

Another heresy was held forth as an excuse for the retention of these institutional derelicts in medicine. It was claimed that the institution as a corporate organization could assume responsibility for the work of its employees and, therefore, these unlicensed physicians should be permitted to serve without being molested. Although the falseness of this claim was consistently shown by the board, it hesitated in attempting to make a test case in which the state would be involved indirectly in defense. It has long been established in our state and in others that medical practice is an individual responsibility, regardless of whether it is pursued within or without an incorporated institution.

An Individual Responsibility

At one time business corporations attempted to assume responsibility for their hired professional employees. Within the tenure of office of your speaker, the railroads of the state, the steel, electric, coal, insurance, and other similar companies were compelled to give up their erstwhile custom of having physicians of their own choice, with indifference to state licensure, take charge of the health of the citizens of the state whom they happened to employ. In each case, where suit was threatened, the company's counsel advised compliance with the state demands. The physicians under employment forthwith either secured licensure or were dismissed. Medical practice, every physician needs to remember, is as much an individual responsibility as driving a car. Testimony in court as to the proficiency of the individual in either case fails if licensure has not been secured.

In some of the trials against irregular practitioners, the witnesses who were paraded before the court would tell how proficient this man was and what an able physician he was. Of late, the courts have said, "We are not concerned about his ability now; we are concerned about whether or not he has secured a license." That is true also of an automobile driver. If, after an accident, the officer asks for the motorist's driver's card and he hasn't any and he explains how good a driver he is, the officer says, "Tell that to the judge," and the judge says, "That doesn't enter into the question now; it is a question of whether you have complied with the law."

So it is in medicine.

Another blatant violation of the law was shown by hospitals employing as interns persons who could not qualify for licensure because of deficient credentials, or others as continuous interns after they had failed in their State Board examinations. One hospital employed a graduate from a low-grade medical school, who, therefore, was not eligible for licensure, over a period of some 6 years under the guise of an intern until threatened with prosecution and loss of appropriation. Others similarly employed seemed unable to understand the need of licensure when protected by a chartered institution and under the guidance of "conscientious" groups of staff physicians.

Appointed Staff Responsible

The fact that the hospital needs the help does not justify the employment of irresponsible professional persons to care for helpless and innocent needy people. Undoubtedly, the economic feature of hospital management exerts the greatest pressure upon those concerned to secure professional help, even though evasive methods need be employed. It should be understood that the regular medical staff has been secured and obligated to give needful care to all patients within the hospital. Each patient is assigned legally by direction or implication to some one physician who becomes responsible for his or her care. Interns and other aids in the hospital are but helpers and cannot be held accountable for the professional care of the patient.

When a resident is employed, he is expected to enter vitally into the welfare of the patients referred to his care by the chief. He, therefore, needs to be licensed. If an insufficient number of recent graduates in medicine is available as interns, and the burden upon the staff members to care for all the patients in their departments is too great, the hospital must be willing to employ at a reasonable amount of expense a sufficient number of licensed physicians to care adequately for the patients. In fact, the time is approaching when

hospitals will need to plan to pay the regular staff members of their hospitals in order to keep the hospitals efficiently manned.

This outline of a few of many cases on record of former law violation will show the obvious need then for special legislation which would clarify the situation and aid in the prosecution of offenders. The amendments passed by the legislature in 1935 were formulated and previously submitted to and approved by each of the 3 medical societies of the state after careful consideration. The administration of the same now seems to cause some wincing and earnest request for modification.

Increasing Law Observance

The board, after advice from the Department of Justice, attempted and still attempts by moral suasion to secure the reform contemplated by the act. The response has been very gratifying; only a few groups concerned have protested. Residencies now begin Sept. 1, and hospitals, whether approved for internship or not, employ residents only after their Pennsylvania licensure. Graduate students are securing licensure in Pennsylvania before entering into the clinical care of patients, junior internships are being eliminated, and all the state hospitals, asylums, and sanatoria are manned by qualified and licensed physicians. It can readily be seen that any effort to modify the law radically by enactment or by administration might nullify these sane accomplishments.

Finally, why does the State Board of Medical Education and Licensure persist so doggedly in urging law observance?

They say we lean backward in our observance of it. Perhaps we do, but that is the purpose of its existence. We must see to it, through inspection and supervision, that forthcoming physicians are duly prepared. We must determine, through evidence of character, legal credentials, and examination, that candidates are worthy of licensure. We must take cognizance of the character of licensed physicians who violate the statutes and thus technically forfeit their licensure. We must urge the prosecution of charlatans and other illegitimate pretenders in the practice of the healing art.

The board is responsible to the state for the performance of duty by seeing that the law is faithfully followed. Where any question as to the meaning of the law or its method of administration is raised, the board is governed by the legal opinions of the State Department of Justice. The Medical Practice Act with its amendments, including those which became effective Sept. 1, 1935, has been carefully considered by the legal department and by the courts, so that there should be little doubt relative to its validity.

Regulations Legally Fortified

I might give you a rather interesting situation. In 1915, when I came on the board, the question arose as to whether or not the board had the right to outline rules and regulations for the administration of those who pretended to practice a branch or branches of medicine and, therefore, formulated the requirements for drugless therapists, physiotherapists, and chiroprodists. The question of the right of the board to do so was determined in the courts later. It was raised first in 1916; in fact, it was raised in 2 places in 1916, and later, through the appellate courts, the decision was definitely given that the board had a right to administer the act even though the direct course of administration was not outlined in the law. At that time, when those rules and

regulations were formulated, they were presented to the attorney-general for his approval or for modification. He gave his approval. Some 12 or 15 years afterward, in a hearing before the Senate Committee of Health, the question again was presented by an honorable attorney from this city, who said, "It is a question in the minds of some of us whether the board had a right to formulate these rules." In reply to that, it became necessary to say that the attorney-general had given his approval, the courts had attested it, both the lower and the appellate courts, and, singularly, the man who had just spoken was the man who was then the attorney-general and gave his approval to the same. Of course, this nullified his arguments.

Before proceeding to administer certain acts and amendments, the board has consistently sought advice from the Department of Justice and has carefully followed the same. If it should fail to do so and attempted to pervert, evade, or deliberately misinterpret the law, it would be legally vulnerable and unworthy of its high purposes and venerable ideals.

We want the members of the medical profession to appreciate our peculiar problems and our many-sided, disturbing contacts. Above all, we want them and all others interested in the physical and mental welfare of the people of the state to know that our first and foremost concern always is to administer the Medical Practice Act so as best to meet the needs of the citizens of this commonwealth. Any semblance of evidence pointing toward dereliction in fulfilling this noble purpose is cheerfully welcomed.

The field of medicine is so vast that its ramifications into the realms of sociologic adventure make it an attractive bone of contention for all sorts of provocative temperaments. Those who have the least responsibility for medical activities are the loudest in their criticism of its laws and its practice. It behooves all of us on the inside to maintain our poise, to discern keenly the purport of dissenting voices, to agree on such policies as may justify themselves through all trying times, and, above all, to remain true to the privilege of giving individual and unhampered service to humanity. Such noble purposes faithfully followed as in the past have made ours the prince of learned professions.

SPEAKER SCINABEL: I think the House must agree with the Speaker that this message which Dr. Metzger brings to us is of such vital importance that some time should be devoted here to informal discussion.

The Chair recognizes Dr. Palmer to open the discussion.

CHAUNCEY L. PALMER (Pittsburgh): Mr. Speaker and Fellow Members of the House of Delegates: As chairman of your Committee on Public Health Legislation, I have experienced the need of his help and have had the privilege of working with Dr. Metzger, chairman of the Board of Medical Education and Licensure of this state. The message he has given this morning rings absolutely true. He has been of invaluable assistance to The Medical Society of the State of Pennsylvania in defending before committees of the Pennsylvania Legislature the very things that he has discussed this morning.

I am glad he has come here in response to our committee's invitation and has explained in such logical and clear fashion the problems that underlie this burning question. He deserves our thanks.

PRESIDENT HENNINGER: I wish to express appreciation of the wonderful way this matter has been presented so that we all may know the difficulties that the

State Board has encountered in its commendable efforts to keep the practice of medicine at all times within the law.

I personally know that Dr. Metzger has frequently advised prospective interns to associate themselves with the smaller hospitals. There is a tendency for the larger hospitals in the State of Pennsylvania to accept more interns than they actually need, and that makes it more difficult for the smaller hospitals to obtain the interns they definitely need.

I hope that many of you will take this opportunity to ask Dr. Metzger questions.

LEONARD D. FRESCOLN (Philadelphia): Is it now necessary to have a licensed physician in charge of the physiotherapy department of a hospital to supervise technicians who apply physiotherapy?

DR. METZGER: Physiotherapy technicians are merely technicians and cannot assume any responsibility in regard to the general physical care of a patient. Whether those technicians are in the hospital or outside of the hospital, it is required that a diagnosis be made by a physician who alone may determine a safe form of treatment. Furthermore, they are to receive from the attending physician a diagnosis and an outline of the type of treatment that should be administered. That physician becomes responsible for the patient in a general way. The technician is responsible, but only insofar as the mechanics of the treatment is concerned. For this, he or she must be licensed.

FORD M. SUMMERVILLE (Oil City): I should like to ask Dr. Metzger a question. If I refer a patient to a licensed technician or graduate in physiotherapy, am I then responsible for the latter?

DR. METZGER: The referring physician might be considered responsible if there should follow some untoward effect due to a bad heart, for example. I don't know just how far legally even then he could be held accountable, but if the physiotherapist should burn or maim the patient in any way, the prescribing physician would not be responsible at all; the technician would bear that responsibility under his or her licensure.

Nurses have no legal power under the R.N. degree, which is an anomalous degree; it is a scholastic degree given by the state, which is an anomalous situation. It does not confer upon the nurse any right that she does not have without the R.N. degree. In all cases where a nurse is employed, the physician who employs her is responsible, whether that be in a hospital or outside of a hospital.

I might say this in respect to another comment made by Dr. Henninger. I agree with the statement that quite a number of our larger hospitals have more interns than they should have. The law states that the hospital shall have a minimum of 25 beds to each intern, the implication being that the beds are occupied. There may be more than that, 40 or 50 to each intern. The limitation is downward, not upward.

I have a son coming on in medicine, and I think I will urge him later to go to one of the so-called smaller hospitals. In some of these larger hospitals, where again you have this long-range supervision by the chief, the present intern becomes the student under last year's intern. I think one may get more direct and better internship training in the smaller hospitals, quite a number of which are very well equipped and very well manned and unfortunately have not been able to get a sufficient number of interns.

FORMER PRESIDENT A. C. MORGAN*: I heartily endorse the entire paper submitted by Dr. Metzger. It was my good fortune to serve for 4 years as a member of the State Board of Medical Education and Licensure and to share with Dr. Metzger and the other members of the board the difficulties and the problems that were presented at that time. I am personally familiar with many of the flagrant instances recorded by Dr. Metzger in respect to hospitals and hospital superintendents presuming to dictate for selfish purposes where they wished to retain men not qualified for examination for licensure in Pennsylvania.

I defend the smaller hospital. I would remark that large hospitals have usurped the time of the interns in training through the pursuit of research work that is not directly related to the training of an intern for general practice, as is provided for in the Medical Practice Act. Since 1894, when the Pennsylvania Act began to function, the purpose in the minds of its originators was only to provide young men and women with such a training in general medicine as to make them safe practitioners of medicine to care for the health and the lives and comfort of the citizens of this commonwealth.

Today many hospitals are swerving away from that point of view and are putting their interns at work on solving abstruse problems, with the result that the young intern soon gets a wrong idea of his importance and is sometimes tempted to classify himself as a specialist.

Attracting Interns

I was asked this morning by a prominent member of our society why some smaller hospitals do not attract interns. My reply was: Develop a visiting hospital staff that is well organized and capable and willing to give the intern, in return for the time he spends there, that which will surely help him in preparing himself adequately for that which lies ahead of him, including the State Board examination, and you will have no difficulty in securing the best graduates from the best medical schools.

I offer this challenge to the staffs of the smaller hospitals of this state: Give the young men something worthwhile for the time they spend with you, and there will be no difficulty at all in getting good young men to apply for internships.

CHARLES L. SHAFER (Kingston): I should like to hear a more general discussion from the members of the House of Delegates. Being a new member of the State Board, I am here to listen. Questions answered in this House today by Dr. Metzger will make easier the future work of all members of the State Board. I heartily concur in everything that has been said this morning.

CHARLES E. LERCH (Wyomissing): Just what is the status of a foreign graduate who is appointed to an internship in Pennsylvania and later assumes a residency?

DR. METZGER: In 1938, New York State admitted to examination over 1000 foreign graduates and licensed about 600, while they licensed a little over 500 American graduates. In Illinois they licensed 80 foreign graduates last year. In our own state we have been running about 18 to 24 annually. An explanation of the contrast will answer Dr. Lerch's question.

Under the Pennsylvania law we are required to inspect medical schools personally in order to determine

* Deceased Oct. 20, 1940.

whether or not their graduates should be considered for Pennsylvania licensure by examination or, if licensed in another state, by endorsement. I am asked to go to Los Angeles—and I leave Friday night—to inspect the College of Medical Evangelists, which is now approved for licensure by examination, but desires full approval. When informed that there was no money available, they sent a check to pay my expenses out there and back just for the hope of approval by our state for the licensure of their graduates by endorsement.

We can't inspect medical schools all over the world; we can in the United States, also in Canada, and have done so. Graduates from schools outside these countries, therefore, must have their credentials evaluated on another basis. Therefore, such credentials always must state the year in which the person took certain subjects, the names of the subjects, the number of hours, whether the hours were laboratory work, lecture work, or clinical work, and must state that the person was duly graduated after following the course.

Many foreign students switch about from place to place, from school to school, in order to obtain teaching under certain outstanding professors in certain subjects, and therefore have had their training in 3 or 4 schools, some in as many as 6. Each such school must certify specifically as to the work undertaken in that school, and each must certify that the certain person has successfully completed that piece of work.

No one has a right to enter an internship until there is assurance that his scholastic medical education has been satisfactory. When any foreign graduate receives approval, a note from the chairman or other member of our board to that effect will be sufficient evidence. Such credentials, then, are kept on file in our office and are used eventually as certifying credentials for licensure. When the internship is completed, both the written and bedside examinations must be passed, so our board has personal contact with the acceptable foreign graduates for Pennsylvania internship and license before they are given or refused Pennsylvania licensure. After they have secured their licensure, they, as anyone else, may serve as residents, but not before that time.

ROBERT L. SCHAEFFER (Allentown): I would like to know whether it is proper to pay the interns. We have never permitted any intern to collect a fee in any way before he has a license. Is it fair that in the same city one hospital pays the intern a monthly salary and the other one does not. What is the rule on that?

DR. METZGER: I don't think the Allentown Hospital has had much trouble getting interns, but it is a good question and does concern all hospitals.

When the intern law became effective, it became necessary for the board to determine whether or not certain hospitals that wanted interns were qualified to give them the training. The late Dr. John M. Baldy, who was then chairman of the board, said in his characteristic manner that if we compelled the boys to take a year of internship, we must make that year worth while. Therefore, we inspected hospitals, attempting to organize a staff with a chief heading up each department so there would be no question about the efficiency of the personnel responsible for the training of the interns. It became necessary in some cases to offer an additional inducement.

Payment of Interns

When an intern asks, "Why don't they pay us to serve as interns?" one might reply, "Why don't you

pay the hospital for the privilege of serving as an intern? You have had 4 years of medical school teaching. Did the medical school pay you to go there? Internship is part of your medical education, and you ought to be happy that you are not compelled to pay tuition for this year of work."

On the other hand, the hospital should make its services, as Dr. Morgan has said, of such value that the intern will not ask for any further compensation. However, the intern cannot judge beforehand what the value of the service will be, and so he naturally tries to dicker with different hospitals to see if he can't get a little spending money in addition to the training.

Quite a number of hospitals recognized this need in a very gracious manner by providing cash on the bonus basis. Most of these boys are "strapped" financially. I know of one hospital, a very large and very splendid hospital, which pays a \$50 bonus at Christmas, provided the service has been satisfactory, and then gives the intern \$50 at the end of his year with his certificate of qualification. This works out very well and the boys appreciate it. On the other hand, if given a trifling monthly salary, they may evaluate the service given by the meager amount of money periodically received.

I see no objection to any hospital giving a bonus for satisfactory service, but the interns must be given to understand that they must not charge for any service they render to any patient. It engenders in them the spirit of indifference to the Medical Practice Act and ought not to be tolerated or encouraged.

SPEAKER SCHNABEL: If there is no further discussion, the Chair will entertain a motion expressing the gratitude of the House to Dr. Metzger for having come here this morning to explain the difficulties and the workings of the State Board of Medical Education and Licensure.

H. MALCOLM READ (York): I move that a vote of appreciation be given to Dr. Metzger for coming here this morning and giving us such a splendid exposition of the workings of the board.

DR. PALMER: I second the motion.

SPEAKER SCHNABEL: All those in favor of this motion please say "aye"; opposed, "no." Dr. Metzger, you have the gratitude of the House of Delegates.

The next item of business will be the reports of reference committees. Are any such chairmen prepared?

Report of Reference Committee on Scientific Business

(Additional report on page 340.)

WILLIAM J. ARMSTRONG (Butler): I will present the report of the Reference Committee on Scientific Business.

SPEAKER SCHNABEL: Very well, sir.

THOMAS R. GAGION (Pittston): Since this reference committee report may contain a lot of material pertinent to the Medical Practice Act, I move that for the purpose of discussion, Dr. Metzger be extended the privilege of the floor during its presentation and discussion.

FRANK W. KONZELMANN (Philadelphia): I second that motion.

SPEAKER SCHNABEL: All those in favor of that motion please say "aye"; opposed, "no." . . . It is carried. In the meantime, the Chair recognizes Dr. Charles

A. W. Uhle, who is our State Society representative on the Advisory Committee to the Division of Venereal Diseases of the State Health Department.

DR. GAGION: Dr. Uhle, who is not a member of this House, in order to conserve time, presented his report last night at a meeting of Dr. Armstrong's reference committee. He, I think, will present it in turn to the House this morning.

SPEAKER SCHNABEL: If there is no objection, we will receive it through Dr. Armstrong's report.

DR. ARMSTRONG: Mr. Speaker and members of the House: The members of the Reference Committee on Scientific Business met last evening and took up the various resolutions and reports that had been assigned to them, and took action on the published reports, as well as the supplemental reports which have been read:

First, the published report of the Committee on Mental Hygiene.

Second, the report of the Committee on Psychiatric Service to the Criminal Courts.

Third, the report of the Committee on Defense of Medical Research.

Your reference committee urges the approval of these reports as published. Mr. Speaker, I therefore move that these actions of your reference committee be adopted by this House.

WALTER ORTHNER (Huntingdon): I second the motion.

SPEAKER SCHNABEL: The report is adopted.

DR. ARMSTRONG: Fourth, concerning the report of the Commission on Cancer, your reference committee urges approval of this report, with special consideration for the paragraph in which the commission suggests that "through the Section on Clinical Laboratory Medicine of our State Medical Society a list of laboratories might be evolved to which technicians desirous of and in need of such training in histologic technic can go for a month or more of intensive instruction in this important branch."

Your reference committee further invites the attention of all physicians to the suggestion of Dr. Catharine Macfarlane of the commission that physicians regularly make pelvic examinations of their women patients.

Fifth, the report of the Commission on Acute Appendicitis Mortality. Your reference committee urges approval of this report.

Sixth, the report of the Commission on Maternal Welfare. Your reference committee urges approval of this report and also recommends that since the 1936 "refresher" courses in obstetrics proved so successful, every effort be made to have funds restored for their resumption.

Mr. Speaker, your reference committee approves these reports as published and I move that these actions of your reference committee be adopted by this House.

DR. ORTHNER: I second the motion.

SPEAKER SCHNABEL: It is carried.

DR. ARMSTRONG: Seventh, the report of the Committee on Tuberculosis. Your reference committee recommends approval of this report as published and especially invites the attention of the House to the need for earlier diagnosis of tuberculosis as stressed in this report, since, as stated, "it is a regrettable fact that nearly 80 per cent of the patients applying for institutional care are already in an advanced stage of the disease."

Eighth, the report of the Commission for the Study of Pneumonia Control. Your reference committee recommends the approval of this report as published and further urges the members of this society to co-operate more fully with our Pneumonia Control Commission, particularly in the matter of reporting to the State Health Department all pneumonia cases, the recoveries as well as the deaths. Mr. Speaker, I therefore move that these actions of your reference committee be adopted by this House.

DR. ORTHNER: I second the motion.

SPEAKER SCHNABEL: It is carried.

DR. ARMSTRONG: Ninth, the report of the Commission on the Control of Syphilis and Venereal Diseases. Your reference committee recommends approval of this report as published. The supplemental report by Dr. Charles A. W. Uhle, State Society representative on the Health Department's Advisory Committee on Syphilis Control, of which Dr. John H. Stokes, of Philadelphia, is chairman, will be read in full in connection with the last (sixteenth) item of our report.

Tenth, the report of the Commission on Diabetes. Your reference committee recommends approval of this report.

Eleventh, the report of the Committee on Deafness Prevention and Amelioration. Your reference committee recommends approval of this report.

Twelfth, the report of the Committee on Graduate Education. Your reference committee recommends approval of this report.

Thirteenth, the report of the Committee on Industrial Health. Your reference committee recommends approval of this report. Mr. Speaker, I therefore move that these actions of your reference committee be adopted by this House.

The motion was seconded.

SPEAKER SCHNABEL: It is carried.

DR. ARMSTRONG: Fourteenth, a supplemental report brought in yesterday by delegates from the Montgomery County Medical Society in regard to German measles. Your Reference Committee on Scientific Business recommends that this report should not be adopted. The committee believes that changing the present practice would lead to self-diagnosis in many cases where the parents would try to determine whether the case was German measles or the other form of measles before calling a physician. Mr. Speaker, I therefore move that the supplemental report on German measles be not adopted.

DR. ORTHNER: I second the motion.

SPEAKER SCHNABEL: If the speaker may make the suggestion, the motion should be put in a positive way.

JAMES H. CORWIN (Washington): May I take exception? The chairman of the reference committee states that the report of his committee does not recommend the Montgomery County advice.

WALTER S. CORNELL (Philadelphia): In school health work here in Philadelphia we encounter about a thousand cases of scarlet fever every year. One-half are of the mildest degree, very difficult to recognize. The great lesson we have learned is that where there is one case of scarlet fever corresponding to a textbook description, there are 5 that do not. Now, to make an exceptional situation for German measles would simply lay us open to thousands of undiagnosed cases; they should be reviewed by the health officer.

SPEAKER SCHNABEL: We will restate the motion. All those in favor of the motion made by Chairman Armstrong will say "aye"; opposed, "no." The report then stands adopted.

DR. ARMSTRONG: Fifteenth, a supplemental report of the Section on Clinical Laboratory Medicine. This was read yesterday (first item under New Business) and will not need to be read at this time except the last "specific purpose" which your reference committee suggests should be changed. This last item (4) defining the duties of committees proposed for appointment in each county society to co-operate with the State Health Department in the matter of laboratory supervision, I quote: "4. To act as an appointee for the State Health Department to aid in the evaluation and approval of laboratories in accordance with the recommended standards of that department, a nominal fee to be paid for this service which will give the committee a legal standing." (Unquote.)

The reference committee believes it wise to delete that sentence as being one of the duties of the proposed county committee, and in place of it put in a substitute resolution, reading as follows:

"And be it further resolved that we urge appointment by the State Health Department of a committee in each county to aid in the evaluation and approval of laboratories in accordance with the recommended standards of that department." Your reference committee's hope is that the State Health Department would likely appoint for this objective the same committee that had been appointed by the county medical society, to discharge the duties under 1, 2, and 3, but we did not feel that it was within our province to say that the county medical society's committees must necessarily be the appointees of the State Health Department.

With that change in this report, Mr. Speaker, I move that it be adopted.

The motion was seconded.

DR. GAGION: This supplemental report contains the germ of something very important to the practice of medicine in the State of Pennsylvania. I am fully aware that the report was hurriedly read to a harried House of Delegates in its first session yesterday afternoon, but because within the body of that entire report there is so much important material, I suggest to you, Mr. Speaker, that the supplemental report be now carefully reread to this body, and free discussion take place.

SPEAKER SCHNABEL: Mr. Chairman, will you please reread the report as requested?

Dr. Armstrong read from the report as follows (for complete report, see page 317 of the minutes of the Monday meeting, first item under New Business):

Resolved, That each county medical society will appoint a laboratory committee consisting of at least 3 members, one of whom is to be a pathologist whenever possible, to co-operate with the officers of the Section on Clinical Laboratory Medicine of The Medical Society of the State of Pennsylvania and the officials of the State Health Department in the solution of the local laboratory problem and for the following specific purposes:

1. Correction of uses and abuses of the laboratory facilities offered by "free" tax-supported laboratories.
2. Revision of serologic fees where indicated.
3. To encourage the development of adequate, competent laboratories.
4. To act as an appointee for the State Health Department to aid in the evaluation and approval of laboratories in accordance with the recommended standards of that department, a nominal fee to be paid for this service which will give the committee a legal standing.

STUART B. GIBSON: Where you say a committee, would it not be better to say a committee of physicians of the county medical society? The way it reads it might be a lay committee.

DR. ARMSTRONG: If I may be permitted to answer that, the committee that is to be appointed by the county society is mentioned in the first resolution; namely, that each county medical society will appoint a laboratory committee consisting of at least 3 members, one of whom is to be a pathologist, whenever possible.

It was felt by the reference committee that we could not very well say to the State Health Department that they were to appoint any particular physicians on the committee, but it was assumed that if the county societies would appoint a committee of 3 physicians, the State Health Department would likely, in almost every case, select that same personnel.

FRANK W. KONZELMANN (Philadelphia): I should like to ask what is implied by the term "medical indigent" in this report.

DR. ARMSTRONG: I don't feel competent to answer that.

DR. GAGION: Mr. Speaker, in my usual modesty, I do. I believe, within the meaning of the Wagner Act and all the other quasi-federal legislation we have, that a "medical indigent" is defined as follows, and I think it is rather important that we should fix the definition at this time.

A "medical indigent" is one who after procuring from his funds the necessities of life, meaning, of course, food, fuel, housing, and clothes, does not have sufficient funds available to provide for himself or his dependents adequate medical care. Even U. S. Senator Wagner would accept that definition.

DR. TOLAND: Are we classifying people as medically indigent, or indigent from a medical standpoint, simply because they have not preliminary to marriage prepared to pay their examining physician from \$1 to \$5 possibly? I don't see why we have to reduce them to indigency for the alleged want of as little as \$5.

FRANK W. WHITE (Rockwood): Now we come to another phase of this question. The State Department of Health has examined gonococcus slides and made blood and serologic tests in the course of our general practice, which are not the premarital or obstetric tests now required by law. Should not these other tests still be done free by the State Department of Health as they have in the past?

DR. GAGION: I am glad that Dr. White brought up that point. The state laboratories are supposed, I believe, to aid physicians in diagnoses made only for indigents, not for people who are able to pay a private pathologist. And the law that establishes the state laboratories has a clause in it that may penalize you, the physician, for furnishing false information.

The law presumes and expects us to be sure before sending this material in aid of diagnosis that we have satisfied ourselves that a particular patient is medically indigent, except in the presence of epidemics and, I believe, potential epidemics arising from pneumonia, for instance; then we and the State Health Department urge that every advantage be taken of the state laboratories to prevent such epidemics.

I have the word of Dr. Verner Nisbet, director of the Health Department laboratories, that in the past 3 months, due entirely he believes to the Wassermann testing under the premarital examination law, the serologic tests have been increased from 1700 in June by 2400 in the month of August. It is absolutely inconceivable that 1200 Pennsylvania couples seeking conubial bliss have so suddenly become medically indigent.

It is said that we physicians have certified all this indigency to our state laboratories, thereby taxing them beyond their facilities and exhausting their budget. This is a blot on our profession, and apparently State Society representatives were apprehensive; hence, the letter of last July advising the membership in a very nice way to be more careful.

Please keep in mind, gentlemen, that the state accepts your certification in this, but it may become necessary at some future time to "crack down" on some offenders. For instance, I have seen a report on one member who in one month sent in over 40 more specimens for a Wassermann than he had sent in the 2 previous years. This rather deplorable situation must be freely discussed and some action taken by the House of Delegates.

FRANK W. WHITE (Rockwood): Dr. Gagon is talking beside the question. I agree perfectly with what he says about the premarital examination. If couples cannot afford to have such tests, they cannot afford to get married. I am talking about the regular laboratory tests that come up in connection with one's practice.

FRANK W. BURGE (Philadelphia): I wish to ask a question. Does this resolution relate only to premarital Wassermann tests, or does it cover all the free laboratory work furnished by the state? If it covers all free laboratory work, then I think a word of caution from a public health standpoint is in order regarding the effect that this might have upon the elimination of tuberculosis. In order to find the tuberculous patient early, we have been trying to get physicians to make routine tuberculosis sputum tests on everybody, for example, who coughs and expectorates more than 3 weeks. It should not be made an expensive procedure. The eradication of tuberculosis is different from the eradication of other diseases, with the exception possibly of syphilis. It may spread innocently through generation after generation, not only of the immediate families but also their contacts, and nothing should be put in the way of the eradication campaign that we are trying to make successful.

FORD M. SUMMERVILLE (Oil City): I think the increase in serologic reports can be very easily accounted for. We go into the highways and the byways to uncover syphilis and then to eradicate it. Recently, I have sent in 8 or 10 times more tests than ever before. Out of a series of about 40 cases we found 5 untreated cases of syphilis. Surely, that pays. I think the increase is due entirely to publicity campaigns for the eradication of syphilis.

We have 4 laboratories in Venango County and, as I understand it, they are all O. K.

DR. KONZELMANN: I should like to know if this House of Delegates would approve of indiscriminate free physical examinations of all people who might have syphilis, or tuberculosis, and include in that a free roentgen-ray examination without consideration of the individual's ability to pay.

SECRETARY DONALDSON: I wonder if the House appreciates that this resolution would provide for the creation of a laboratory committee in each county medical society, thereby bringing the solution of this problem definitely to a local basis. Surely no county medical society would finally approve of some of the newer practices that are suggested here as being exposed to such flagrant abuses, nor to the neglect of established diagnostic procedures as advised by the 1940 House of Delegates of the American Medical Association at New

York City "to the effect that state medical societies in their discussions and decisions regarding free health department services at all times protect the interests of the taxpayers of city, county, state, and nation without interfering, however, with the proper control of communicable diseases." That is my interpretation of the reference committee's proposal. I don't know whether the chairman of the committee has that in mind or not.

SPEAKER SCHNABEL: The question is on the adoption of this report as modified. Is that correct, Mr. Chairman?

DR. ARMSTRONG: Yes.

SPEAKER SCHNABEL: As amended by the Reference Committee on Scientific Business, all those in favor of the adoption of this report please say "aye"; those opposed, "no." . . .

You have adopted the report approving the resolution presented to the House of Delegates yesterday by Chairman Brown of our society's Section on Clinical Laboratory Medicine, with the understanding that the reference committee has substituted for item No. 4, as read to you by Chairman Armstrong, the following:

"And Be It Further Resolved, That we urge appointment by the Pennsylvania Health Department of a committee in each county to aid in the evaluation and approval of laboratories in accordance with the recommended standards of that department."

DR. ARMSTRONG: Members of the House, the final report is the report of the State Society representative on the Health Department's Advisory Committee on Syphilis Control. This is Dr. Charles A. W. Uhle, who is also a member of our State Society's Committee on Syphilis and Venereal Disease Control, and he is the liaison representative between the State Medical Society and the State Health Department in that particular work. This supplemental report was submitted by him yesterday. It was not read. If there is no objection, I will read it now.

SPEAKER SCHNABEL: You may proceed, Mr. Chairman.

DR. ARMSTRONG: I quote: "With the establishment of the Pennsylvania premarital and prenatal laws, an important milestone in the fight against venereal disease has been reached. The second milestone of successful administration can be reached only by the sincere effort and co-operation of every physician in this state under the guiding spirit and leadership of our State Medical Society."

"Your representative was recommended to the Advisory Committee of the Venereal Disease Control Committee of the Pennsylvania Department of Health by President Henninger to act as a liaison officer in reporting to the president and to the House of Delegates the deliberations of the State Health Department's committee. This appointment carried with it the representation of all public-spirited physicians, but more specifically the 9250 members of The Medical Society of the State of Pennsylvania. The Advisory Committee to the department has sanctioned my reporting to you discussions of mutual interest which have arisen in our meetings. By the same token, recommendations and resolutions by the House of Delegates will be conveyed by me to the Advisory Committee."

"Much time and thought has been given by the Advisory Committee and its Subcommittee on Serology to the 'requirements for laboratories approved to make serologic tests.' In reference to these, your representative has been in active communication with Chairman

H. Ivan Brown, of our society's scientific Section on Clinical Laboratory Medicine. Recommendations for improvement or deletion of certain items in the requirements have been studied by the Section on Clinical Laboratory Medicine. These requirements were for the most part favorably received. The State Department Advisory Committee had stressed the point that it 'would be unwise for this committee to assume this responsibility of defining the general qualifications of a laboratory director, since this was not a necessary part of its function.' However, the Advisory Committee is vitally interested and concerned with the qualifications of laboratories, their evaluation, and inspection insofar as obtaining the highest possible standard of serologic accuracy is concerned. The State Health Department has informed the committee that during the past 5 months a noticeable improvement in laboratory serology has been achieved. As of Sept. 10, 1940, 237 laboratories have been approved, 30 have requested approval but have not completed their applications, and 18 are in the process of evaluation.

"All members of the State Society received a circular letter in July, 1940, calling attention to the 'definite and direct responsibility of the physician in the certification of indigency.' This State Society letter was prompted by a report from the State Health Department that marriage license applicants reported as indigent by the physician have later written to the Department of Health requesting that their names be removed from the indigent list. Since success in administering the Pennsylvania premarital and prenatal laws depends entirely upon the honesty and ethical standards of the practicing physician, the moral abuse of indigency stands only to be condemned; and clinical laboratory medicine may stand to be scuttled for state medicine if the abuse continues.

"The State Health Department reported that premarital tests for the entire state rose abruptly in May and continued at the same level in June with a slight diminution in July. The figures speak for themselves as to the problem of indigency. The physician-patient relationship must remain inviolate and fees both for physical examination and serologic testing must be fair and mutually equitable. Medical fees and costs of serologic tests vary in Pennsylvania due to many varying local influences on individual income, competition, population, sources of free service, etc. *Could not the House of Delegates go on record as favoring a fair deal, rather than a New Deal, in the dissemination of medical economic facts through its JOURNAL and the rosters of its component societies?*

"An example of the reaction to the premarital law is a statement made by many, as follows: 'If a man can afford to get married, he can certainly afford to pay a physician's fee and laboratory fee, providing both are reasonable and in proportion to his income.' Again, the State Health Department has received letters from physicians stating that the applicant for marriage license refused to pay a laboratory fee because, 'the state made the law and should, therefore, perform the serologic test at its own expense.'

"Other examples can be cited, but these serve as reactionary beacons in illuminating the divergences of opinion. Time will adjust many difficulties, but will time, present or future, improve on or approve of a standard of indigency? Here, we are dealing with a problem that is fundamental, but variable with community standards. It needs, in its solution, the sympathetic attention of every citizen and cannot just be

dropped as an illegitimate child into the lap of the physician for his tender care alone.

"In the July issue of THE PENNSYLVANIA MEDICAL JOURNAL, the opinion of the Deputy Attorney General was given concerning consultation by correspondence methods on diagnosis and treatment of syphilis. The opinion rendered defines consultation by correspondence as malpractice. This opinion is backed by the Advisory Committee and the Institute for the Control of Syphilis of the University of Pennsylvania. In our committee deliberations, Dr. John H. Stokes, the director of the institute and also chairman of the Advisory Committee, stated that the institute was not proposing to violate the code of ethics, but had proffered consultation by correspondence as a public service.

"Finally, gentlemen, the Advisory Committee has had under discussion the venereal disease control and the war preparedness program in its state phases, but more time will be needed to propose specific recommendations. The committee is keenly sensitive to the general practitioner's lead in this matter to carry through any plan in complete and satisfactory form." . . .

DR. ARMSTRONG: Your reference committee recommends approval of this report, and especially urges that the attention of the Committee on Public Health Legislation be called to the opinion of the Attorney-General relative to consultation by mail and that they seek the advice of the trustees of the State Society in regard to this opinion.

It seemed to us that was a very important matter.

Mr. Speaker, I move the adoption of this report.

DR. GAGION: I second it.

DR. METZGER: One thing ought to be watched carefully, and that is that some responsible person is back of any report—I mean a person who has been licensed, and when it is a special report, one who has been specially prepared to give such a report. In laboratory work, reports enter very vitally into the welfare of patients, and all such reports must be given by persons who have been qualified by licensure to give them. Ph.D.'s, doctors of science, and other persons who are trained technically cannot legally give reports of this type.

The chairman of the board was asked what laboratories should be approved when this came forth. The reply was—obviously only those laboratories that are now approved by the State Board and that have licensed physicians heading them who actually supervise the work at least half a day, so that responsibility can be fixed specifically in every case. This applies to work in the hospital, medical work outside the hospital, and to all cases of this type. That is where the attention ought to be centered by these committees to be appointed in the various counties—legal ability through personal responsibility, first by licensure, second by training, to give such reports.

DR. PALMER: Mr. Speaker, reference has been made to the Committee on Public Health Legislation in connection with this question. As chairman of that committee, I should like to call your attention to a statement in this report, apparently quoting Dr. Stokes, in which he indicated that they had no desire to violate the code of ethics. It is not the code of ethics but the law of the state that is involved. That is one slight mistake in the report of Dr. Uhle.

Our committee and the Board of Trustees of our State Medical Society are fully cognizant of all the processes through which this opinion went. Some 5 or

6 months ago the secretary of your State Medical Society received a communication from the Bureau of Legal Medicine of the American Medical Association, with a copy of their advice to the Attorney-General of Pennsylvania, offered at the request of the Deputy Attorney-General assigned to medical problems, namely, Mr. Morgan. This opinion as finally given was very definitely against the Advisory Committee of the State Department of Health passing upon described cases by correspondence rather than after individual examination.

Your committee representatives later called on Mr. Morgan and thanked him for having addressed his reference and request to the Bureau of Legal Medicine of the American Medical Association. This was all brought to the attention of your Board of Trustees.

DR. GAGION: May I ask Dr. Palmer a question? Is it not also illegal for the Life Extension Institute to give an opinion on a case by mail, as they do, after having had submitted to them a list of symptoms and answers to a questionnaire?

DR. PALMER: You are absolutely right, and I think that has been settled in the courts.

DR. GAGION: May I ask Dr. Metzger a question? Is it considered lawful within the Medical Practice Act for a Ph.D. to submit a report on a Wassermann test?

DR. METZGER: I think it is not legal, and I believe this would be supported in the courts. The whole point is the fixing of responsibility. One not licensed to practice medicine may not legally enter into the clinical phase of the matter, and therefore may not give a report one way or the other. We all know that there are always possibilities of error, even in the Wassermann report. Reports may be given and accepted to which there may be legal reactions; who then is going to be responsible for alleged mistakes or for malpractice? One who is not licensed to practice medicine cannot be held responsible.

DR. GAGION: This is an extremely important point. In the future we should endeavor to have only qualified persons as the responsible heads of laboratories. Apparently at present, under the Medical Practice Act, a legally licensed doctor of medicine, be he a heart specialist or an ophthalmologist, may conduct a laboratory. It is said that there is a doctor of veterinary medicine performing a great many Wassermann tests and conducting all the other pathologic work in one of the leading hospitals in this city. If the state permits this, then may we not soon expect lack of control over anybody who wishes to conduct a laboratory at the crossroads and perhaps perform all kinds of shoddy work? Does it not become the duty of this society or its scientific Section on Clinical Laboratory Medicine to be cognizant of and insist always that each laboratory making diagnostic tests be headed by a specially qualified person?

LEO P. GIBBONS (Scranton): Dr. Metzger just stated that only laboratories that are supervised by a physician at least half a day should be recognized in such work. Was that just a recommendation, or is that the law?

DR. METZGER: Mr. Chairman, this involves another problem inadvertently dragged into this discussion. The requirements for approval of a hospital for intern training include the employment of a pathologist in the laboratory who may supervise the work of the intern, preferably for the entire day, but at least for one-half a day, and a competent technician who may supervise

the intern for the remaining part of the day. Such persons must, therefore, be trained in laboratory work in order to supervise properly the work of the intern. It seems to me that it should apply to all laboratories. I know of no legal method, however, by which we may control the physician who does not have special qualifications as a laboratory man from assuming such responsibility. In the courts he would probably have considerable difficulty defending himself when not legally licensed.

SPEAKER SCHNABEL: Are you ready for the question on the adoption of the report of the reference committee on Dr. Uhle's communication? . . . The report is adopted.

DR. ARMSTRONG: Members of the House of Delegates, I move that the report of the Reference Committee on Scientific Business be adopted as a whole.

DR. CORWIN: I second the motion.

SPEAKER SCHNABEL: You have adopted the report of the Reference Committee on Scientific Business.

The Chair recognizes Dr. Mason, who is here by invitation.

PRESIDENT HENNINGER: May I have the pleasure of introducing Dr. Mason, who is the director of the First Military Area in the Third Corps Area? He will speak to us on "Medical Preparedness."

MAJOR JAMES B. MASON: Mr. Speaker and Members of the House of Delegates: I am very happy to say a few words about medical preparedness, and to tell you a little of the organization which we have in this state from the point of view of the Regular Army, and how it will integrate with the civilian physicians.

The Third Corps Area is composed of Pennsylvania, Maryland, Virginia, and the District of Columbia. Pennsylvania, because of its large population, occupies two-thirds of that corps area from the administrative point of view, and it is divided into 2 military areas, the first comprising all the counties east of the Susquehanna, and the second comprising the remainder of the counties. The Third Corps Area, with which we are not concerned, is comprised of the other 2 states mentioned and the District of Columbia.

I have nothing confidential to tell you. I will speak of the First Military Area, because that is the one with which I am concerned. Anything I have to say is purely unofficial, but it has the sanction of my chief of staff. Each military area has a chief of staff who is in charge of the sections of infantry, artillery, quartermaster, and all others. There is also a medical officer who is to relay information to the civilian population, and particularly to the medical profession.

The Surgeon-General of the Army, of course, is trying to work through the state and county medical societies because the county societies know more of the local problems than others might know.

You no doubt periodically see notes on preparedness in the *A. M. A. Journal* and also in *THE PENNSYLVANIA MEDICAL JOURNAL*. We have a very excellent state preparedness committee, and I am told that among our county medical societies more than 50 have their preparedness committees.

I feel that county medical societies that have their own questionnaires will be able to help greatly in effectively classifying their own physicians.

The Medical Department of the Pennsylvania National Guard, which has a very high rating, will soon be called to duty and is not included in this military

area at all. All this will not concern those of you who are in the Naval Reserve.

These preparedness questionnaires will be especially helpful to me from the counties in the First Military Area for the following reasons: First, there will be need for a great many physicians during the present 12-month training program. While we have 15,000 officers in the Medical Reserve Corps of the United States, some 25 to 30 per cent will be lost either through deferment because of need for them in the community, or because of physical impairment, so that we will have to call on the civilian profession to help us out. How better could we do it than to have the physicians of each county listed as available to serve as needed?

At present physicians under age 35 may enter the service by going on active duty for a year. Only in that way may young physicians at present become members of the Medical Reserve Corps. Reserve officers will be called if and when needed, the earliest going with Regular Army units and Regular Army hospitals. Those called a little later will be sent to fill in vacancies in the medical service of the National Guard or other training units.

Young physicians in the Reserve who for financial or other reasons cannot take part in the preparedness program will be permitted to resign. Their formal letters of resignation should be accompanied by 2 supporting affidavits from responsible persons who are not relatives.

The headquarters of the First Military Area is in Philadelphia, and has one Medical Department officer on duty; the second, with headquarters in the Post Office and Federal Building in Pittsburgh, also has a medical officer on duty there. Each of the military areas has subdistricts which have executive officers. For the First Military Area, those districts are Philadelphia, Lancaster, Harrisburg, and Wilkes-Barre.

SPEAKER SCHNABEL: The Chair will grant a recess of 3 minutes.

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SPEAKER SCHNABEL: The House will please reconvene. The Chair recognizes Dr. Pendergrass.

Report of Reference Committee on New Business

(Additional report on page 340.)

DR. PENDERGRASS: Mr. Speaker and Members of the House of Delegates: The Reference Committee on New Business begs to submit the following report:

We recommend approval of the original report of the Committee on Medical Economics as published in the JOURNAL. We also recommend approval of the supplementary report as published in the JOURNAL. We beg to call attention to the excellent work of this committee on the resolution concerning diagnostic clinics introduced in the 1938 House of Delegates by Dr. Walter S. Cornell. Their study of diagnostic clinics has been very enlightening in demonstrating the inadequacies of such facilities. This is primarily a local problem, but offers a fertile field for the development of a helpful service to the public.

The Supplementary Report of the Committee on Medical Economics was read at the session of the House of Delegates on Monday. We recommend acceptance of the report as presented.

One portion of this report concerns roentgen-ray fees in state hospitals. We recommend that a committee from this society be appointed to confer with the repre-

sentatives of the State Department of Welfare and of the Pennsylvania Radiological Society in an effort to adjust this problem.

We recommend approval of the portion of the supplementary report concerning group hospitalization. It is in an experimental stage. We appreciate the structural limits of hospitals to provide selective facilities for this class of patients. The principles laid down by the Committee on Medical Economics may well serve as a guide in the future development of hospital facilities.

I move the adoption of this report, Mr. Speaker.

The motion was seconded by several members.

SPEAKER SCHNABEL: The published report of the Committee on Medical Economics as well as its supplementary report are before you for approval and adoption . . . The report and supplementary report are adopted.

DR. PENDERGRASS: Report of the Committee on Telephone Directory Classifications. We recommend the approval of this report.

The reports of the 12 trustees and councilors all record excellent work carried on by the various component county societies throughout the past year.

We beg to note the various recommendations in the report of Dr. Robert L. Anderson, trustee and councilor for the Tenth Councilor District. Therein is discussed (1) the establishment of an executive committee of the Board of Trustees; (2) the development of a reserve fund and a pension system for the benefit of retired society employees; and (3) the evaluation of our society's present medical defense service. We also recommend that the Board of Trustees consider the feasibility of an organizational study by a competent business analyst (preferably one from another state) of the cost of such services, the benefits likely to be derived therefrom, and to report thereon to the House of Delegates at its regular session in 1941.

I move the adoption of this portion of your reference committee's report.

DR. CORNELL: I second it.

SPEAKER SCHNABEL: The report stands adopted.

DR. PENDERGRASS: Report of the Advisory Committee to the Woman's Auxiliary. We recommend adoption of this report.

Report of the Child Health Committee. We compliment Dr. O'Donnell and his committee on the excellent work done during the past year, as outlined in his report. Surely this committee has been inspired by the spirit of his predecessor, Dr. Samuel McC. Hamill, chairman for many years, but now serving as a private in the ranks.

I move the adoption of these sections of our committee's report.

DR. MCCULLOUGH: I second it.

SPEAKER SCHNABEL: This motion is carried.

DR. PENDERGRASS: Report of the Social Security Conference Committee. We recommend adoption of this report.

Report of the Delegates to the American Medical Association. We recommend adoption of this report.

Report of the Delegates to the 1940 meeting of the U. S. Pharmacopoeia Conference. We recommend adoption of this report.

We move that this section of your reference committee's report be accepted.

The motion was seconded.

SPEAKER SCHNABEL: You have approved the recommendation.

DR. PENDERGRASS: Resolution of the Schuylkill County Medical Society. This resolution, as you remember, advises this House to instruct the State Medical Society's representatives to do as much as possible to have the medical profession paid in full from now on for all professional services rendered to Public Assistance cases.

DR. GAGION: This is important. A review of the published reports of the 12 councilor districts reveals almost universal dissatisfaction with the Public Assistance service relationship on the part of the members of our component societies.

SPEAKER SCHNABEL: The question is on the endorsement. All those in favor of the endorsement, please say "aye"; contrary, "no." Approved.

DR. PENDERGRASS: Resolution on arrangements of locum tenens with physicians called into active military service. We recommend endorsement of this resolution.

This report was read by Dr. Stanley P. Reimann yesterday, and I do not believe it is necessary to read it at this time. I move the endorsement.

The motion was seconded.

SPEAKER SCHNABEL: It is so ordered.

DR. PENDERGRASS: Resolution on formation of a Commission on Nutritional and Deficiency Diseases. Recent advances in the field of nutritional and deficiency diseases prompt the endorsement of this resolution. Therefore, we recommend that a Commission on Nutritional and Deficiency Diseases be created and that this commission be patterned after those commissions which have done such efficient work in pneumonia and diabetes. I so move.

DR. McCULLOUGH: I second it.

SPEAKER SCHNABEL: All those in favor please say "aye"; opposed, "no." It stands adopted.

DR. PENDERGRASS: Resolution on physical fitness. We recommend that this society extend its co-operation to such governmental agencies as shall undertake a constructive program tending to improve the general physical fitness of the nation. I so move.

DR. ORTHNER: I second it.

SPEAKER SCHNABEL: It is adopted.

DR. PENDERGRASS: Mr. Speaker, I move that we adopt the report of the Reference Committee on New Business as a whole.

The motion was seconded.

SPEAKER SCHNABEL: It is moved and seconded that the report of the Reference Committee on New Business be adopted as a whole. Are you ready for the question? All those in favor of adopting this report, please say "aye"; opposed, "no." The report stands adopted.

Report of Reference Committee on Reports of Officers and Standing Committees

HENRY T. PRICE (Pittsburgh): Mr. Speaker and Members of the House of Delegates: The Reference Committee on Reports of Officers and Standing Committees has carefully reviewed these reports and is astounded at the scope of the society's activities as thus portrayed. The officers and members of these groups are to be highly commended for the excellent manner in which they have fulfilled their duties.

In the vast amount of information included in these reports, your committee desires to call your attention especially to the following items:

1. At this time the need of special effort to increase the membership of the society by the addition of all eligible physicians.

2. The increase in the administrative expenses of the society from necessary activities which existing economic conditions have demanded.

3. Untiring and renewed effort by our own committees to secure a reasonable remuneration for the services of the medical profession to the indigent of the state.

4. A consideration of the society's existing medical defense procedure and a recommendation for revision, if appropriate.

I move that this report be adopted as a whole.

The motion was seconded.

SPEAKER SCHNABEL: It has been moved and seconded that the report of the Reference Committee on Reports of Officers and Standing Committees be adopted by the House. Are you ready for the question?

DR. PALMER: Mr. Speaker, if this motion is adopted, will the action on the third item regarding remuneration of the physicians for medical care of the indigent become closed? It is my desire to have a free, frank, and open discussion on this question.

SPEAKER SCHNABEL: Will you proceed, Dr. Palmer?

DR. PALMER: As a result of legislation, the responsibility for the medical care of Public Assistance recipients in this state has been placed under the Department of Public Assistance. Realizing all the difficulties that are entailed in a program of this kind, I reluctantly accepted the chairmanship of the State Healing Arts Advisory Committee. As such, I am the lone representative of The Medical Society of the State of Pennsylvania on that committee. I hope for a free, frank, and open discussion on the part of each and every member of this House of Delegates speaking for his county medical society on this question. I desire to know exactly what policy this State Medical Society wishes to follow in carrying out this program.

DR. GAGION: A review of the reports of the 12 councilor districts reveals an almost universal dissatisfaction over the proration of bills.

Excerpts from some of the county reports are interesting. From that of the Second Councilor District we read, "The members of the district, although not satisfied with Pennsylvania's Public Assistance program for the medical care of the indigent, have endeavored in every way to carry out the provisions."

From Chester County we read, "Many physicians believe there is unnecessary delay in the payment of their bills." This society has also strongly urged that at least 3 per cent of the total state appropriations for relief be allocated for medical relief. The detailed report for Montgomery County is most enlightening since it shows a constant and marked decrease in the percentage paid the physicians.

From the Fourth Councilor District a most practical criticism is made: "To decrease the medical allowance in proportion to the reduction of the case load on relief is all wrong. The same people remain on sick relief as before. It is the well and strong who are taken from the relief rolls by employment."

Centre County reports: "Practically all members participate in the Public Assistance program and are tolerant of its inadequate compensation."

Erie County reports: "Many members remain dissatisfied with the D. P. A. work, but continue to serve efficiently."

Allegheny County speaks in a guardedly favorable way of the D. P. A. setup: "It would be interesting to know whether the prorating of bills in Allegheny and Philadelphia counties is the same as that extant throughout the state."

It would seem, Mr. Speaker, that the only salvation for this program, which we feel will be with us for years to come, is the raising of sufficient funds to compensate physicians more adequately for the splendid type of professional service which they render.

The salvation of the program would seem to be in the allotment of 30 cents per capita for medical relief. It is not for us to say how the money should be raised, but rather it is for us to prove the necessity for the raising of more money.

Is the percentage reduction the same in Allegheny and Philadelphia as in other counties throughout the state?

DR. PALMER: The percentage reduction, before approving bills by type of participation, in Philadelphia is 10.2 per cent; in Allegheny, 6.8 per cent; in the other counties 10.5 per cent.

These are the reductions made by the county medical society subadvisory committees before the proration necessitated by insufficient funds.

DR. GAGION: Does every physician in the State of Pennsylvania participating in this program, regardless of his location, receive about the same amount of cash proportionately for his work, or does the physician in Allegheny and Philadelphia counties receive more than the one in Clearfield or other counties?

CHARLES C. RINARD (Homestead): I should like to answer that later by giving you a survey of 52 counties.

This matter of Public Assistance is one of the most important things to come before this body in this session, and I say that because it directly affects 4000 doctors of medicine and from one-half to one million potentially sick people on various forms of relief in the State of Pennsylvania.

I have been struggling in this work as chairman of the subadvisory committee of Allegheny County since its inception, Sept. 15, 1938. I do not need to cite figures to convince you that the physicians of the state have had to bear and forbear plenty during these 2 years. They have proven themselves loyal and have supported their county subadvisory committees and the state committee even under the humiliating circumstances they were compelled to accept in connection with prorations.

The medical program as now constituted is workable, is providing a quality of medical care equivalent to that of private practice, and is being administered on an economical basis in Allegheny County averaging \$3.12 per case of sickness. We have been unable to convince the Department of Public Assistance that more money is needed to carry on this program and to give our physicians even a fair recompense for their splendid work.

It is true that allocations were increased in December, 1939, from 15 cents to 20 cents per person on relief, but since Sept. 15, 1938, the Department of Public Assistance has added to the program the nursing service and the dispensary or clinic service, and also increased the allowance to the pharmaceutical service, which is not subject to proration. All the while the work was increased in volume, increasing our prorations, so that for the last months in which reports were available

in Allegheny County we were prorated for April down to 51 cents on the dollar; May, 41 cents on the dollar; and June, 39 cents on the dollar, and I am positive that many counties in the state suffered similarly.

In 1939 I made a survey of the state, and discovered that during the year 1939 the prorations averaged as follows:

Four of the counties were prorated only to the 90's; 14 to the 80's; 20 to the 70's; 12 to the 60's; and 7 to the 50's, and from the knowledge I have at present, I expect the year 1940 to prove much worse.

The survey also disclosed that 48 of the counties reporting expressed from mild to vigorous dissatisfaction due to the heavy prorations, and only to the heavy prorations, and that all counties reported that the quality of medical service rendered was equal to that of private practice.

During the 1940 meeting of the Pennsylvania Homeopathic Medical Society held in Hershey, Mr. Howard Russell, secretary of the State Department of Public Assistance, it is reported, made a statement to the effect that he was not convinced at that time that the indigent in this state were receiving the quality of medical service that the state was paying for, a statement directly opposite to the findings of my survey and out of step with Secretary Russell's own comment before our Allegheny County Central Healing Arts Committee just 2 months earlier.

Recently a committee composed of the chairmen of 5 of the subadvisory healing arts committees from the largest counties, also Dr. Palmer, and our State Society's Mr. Perry, from Harrisburg, met with representatives of the Department of Public Assistance and with the State Board of Public Assistance. When we presented an argument for larger cash allocations for the program, we were told that the state could administer the medical care on this program more economically by employing contract physicians.

We must not, from discontent, throw this program of service overboard by refusing to care for sick indigents on the present setup. It would then become logical and easy for the public, the Governor, his cabinet, the legislature, and the taxpayer to be in favor of contract practice. For this reason, I urge that this most important subject be brought before this body and given an honest and earnest discussion. Our Public Health Legislation Committee and we who are distributing this service will welcome your decision.

ALBERT R. FEINBERG (Wilkes-Barre): I believe there are 2 things to be considered in remedying this situation. First of all, the County Healing Arts Committee or its medical subcommittee must do its job right or the program will fail. The other, of course, is obvious, that is, more money. Where are we going to get more money? The first place is at Harrisburg where there seems to be money for everything else.

When this service program was started Sept. 15, 1938, it included only medical and pharmaceutical service. Later the dental profession entered, then the nursing profession—all this, of course, after the State Department claimed to have insufficient funds for medical and pharmaceutical service. Naturally proration of our fees followed. Then, last but not least, the hospital dispensary service was added. But, at the last session of the Pennsylvania Legislature—and this may be enlightening to some of you—another group entered, the milk distributors. The new law had the Department of Public Assistance give out tickets or orders for milk. We couldn't persuade the Department of Public Assistance

to give the recipients of relief a symbol of identification to take to the physician because it was too much bother. One week a family might be on relief and possibly the next week they were off relief, but, nevertheless, under this milk program, every family on relief with children under age 16 must get one quart of milk a day for each child.

The milk purveyors took no chance of not being paid or of being prorated, because they have the milk money deducted from the relief grant before the family receives its money. If a family is to receive \$10 weekly or monthly as a grant, and \$2 is to be deducted for milk for that family, the family receives only an \$8 check and a \$2 order for milk. Of course, this \$2 milk order may be used in various ways—it may be exchanged for bingo tickets, for example.

Now, the total for the milk program is \$1,200,000 annually, but it costs exactly \$800,000 a year to administer the program. That is not idle hearsay—\$800,000 for administration, \$400,000 for milk.

We in Luzerne County—and I challenge any member to say differently—have supported every program of our State Society just as we have accepted the aims of our nation. May she always be right, but right or wrong, she is our country, and the same goes for the State Medical Society. We have bent over backward in Luzerne County on the Public Assistance program, but we have too long taken the attitude that the practicing physician is wrong when he complains about this program. Aside from our committee cutting down on the invoices, the county P. A. board still has to prorate them 38 per cent.

We understand that the federal government does not contribute, through matching, to the \$1,200,000 milk distribution program. The State Department of Public Assistance finds this milk program burdensome. Every time there is a change in the price of milk, they have to change each individual recipient's grant. When a child is born, they have to change the family grant. When a child under age 16 dies, they have to change the grant, or when a child passes age 16, they have to change it again.

If we now sit back and let this thing go by, it is time that somebody else did something about it.

I have been absolutely favorable toward the Public Assistance medical service program, and still feel that it has possibilities, but it has possibilities only as long as the county medical society subcommittee thoroughly attends to its duties. We are not all 100 per cent on the level in this program. I don't mean that the occasional physician who invoices too many calls is not actually making the calls, but many are unnecessary calls, which results in his further depriving the physicians who endeavor to keep their fees within the minimum adequate service limits.

If each subcommittee works effectively, and if we can get more money from the state—and I have shown you where \$800,000 is being wasted—there is no question but that this P. A. medical service program will improve and finally succeed.

JOSEPH SCATTERGOOD, JR. (West Chester): May I ask Dr. Palmer 2 short questions? First, what percentage of the total relief dollar goes for medical relief? It has been suggested that 3 per cent in Chester County would underwrite the medical service program. Second, what percentage of the total relief dollar goes for administration?

LEO P. GIBBONS (Scranton): I should like to ask a question. Our members ask why the druggists are paid

in full not only for materials used but for professional service, while the services of others are prorated.

SPEAKER SCHNABEL: The Chair recognizes Dr. Palmer.

DR. PALMER: Dr. Scattergood asks what percentage of the total relief dollar goes to the physician. That varies each month throughout the state, anywhere from 1 to 2½ per cent, to nurses, druggists, dentists, clinics plus the physicians.

Of this percentage the physician gets 65 cents on the dollar. The cost of the administration of the entire relief program is limited by law to 8 per cent of the 2-year appropriation totaling \$121,000,000.

As to the druggists' bills not being prorated, I want to say to you that we have opposed that since its inception. The claim is made that pharmacists are furnishing materials for which they pay cash, and that they supply the components of prescriptions in 1-ounce, 2-ounce, or 3-ounce quantities at the prices for which they may purchase them by the gallon. They claim that, should they be prorated, they would have to raise these costs.

It is stated that recently the cost of cod liver oil went up because of war blockades.

LEONARD G. REDDING (Scranton): If I understand the Social Security Act, there are certain sums of money granted Pennsylvania by the federal government for maternity and child welfare on the basis of cases treated. If the federal government allocates a sum for each eligible maternity case, then I feel that money should not be thrown in the common relief fund.

DR. PALMER: None of the appropriations under the Social Security Act may be applied to the Public Assistance program. None of the funds from the Social Security Act appropriated for child and maternal health service may be applied to payment for the obstetric delivery of the child. There are possibly 300 or more well baby clinics in the state and a few prenatal clinics, but none provide for the delivery.

I wish to take this occasion to thank the county medical society subadvisory committees for the excellent work they have done in this P. A. field. You have heard some of their impressions expressed here. I agree with all of them, and believe they are doing excellent work, contrary to some of the criticism that comes from the Department of Public Assistance to the effect that many of the programs in the various counties—and they can cite you a number of instances—are not well controlled by our own committees.

In pursuing a change, 2 things have been suggested: One, that we change the program; another, that we get more money. In pursuing the question of a change, at the May meeting of the State Healing Arts Advisory Committee it was decided to give a rather intensive study to this entire program, taking into consideration the existing programs throughout the United States and Canada.

On Sept. 4 last the State Healing Arts Advisory Committee met and spent a whole day going over such programs, endeavoring to pick out something that would be of benefit to the program in Pennsylvania and also assist in reducing the amount of proration of the physicians' bills. On Sept. 17 we met again with the Philadelphia County Healing Arts Advisory Committee and discussed the same question and again reviewed various programs in conference with Dr. Gertrude Sturges of the American Public Welfare Association, Dr. Carl E.

Rice and Mrs. Edna C. Wright of the Social Security Board.

At the present time the Philadelphia County Healing Arts Advisory Committee is studying this question with the idea of developing an experimental change in Philadelphia County.

What Dr. Feinberg told you is true; the Department of Public Assistance earnestly desires the repeal of this milk law. Its adoption was not obstructed because of its humanitarian appeal as a measure to furnish milk for indigent children, but now that it has been tested in a practical manner, I haven't the least doubt but that it will be repealed in the 1941 session of the legislature. This will give more funds, but we shall have the landlords, the merchants, the dentists, the nurses, and others waiting to get what they can. In other words, we sort of tend to develop into pressure groups in this program.

There is only one way to raise funds and that is through taxation, and, of course, to even discuss the question of raising taxes at this time is extremely unpopular.

There are a few fundamental things that we must consider in this program. First, it must not become too attractive to those receiving its benefits; second, it cannot be made too attractive to the participating professionals; and again, if we should get more tax funds and more tax subsidy, we will have more governmental control.

It might be better for the medical profession for awhile to donate their energies, facilities, and services rather than pay more taxes and suffer more supervision.

I have been requested by the Lackawanna County Medical Society to present a resolution that is similar to the resolutions that have been presented heretofore, as follows:

Resolved, That the Lackawanna County Medical Society again protest the utterly inadequate allocation for medical relief, and urge upon the Public Health Legislation Committee of the State Society the imperative necessity of an increase in that allocation in order to serve the interest of both the patients who are being so faithfully served and the physicians who are so unselfishly serving them.

We have continually pressed for adequate funds, bear that in mind. We are in sympathy with all such resolutions.

The most important thing to remember about this entire program is, as Dr. Rinard has stated, if we cast the program aside, we then publicly relinquish a principle for which we have striven all the way through; namely, that of free choice of physician. If we go back to contract physicians, then we further surrender our grip upon the legalized direct and individual responsibility of the physician to the patient, one of the cardinal principles for which the medical profession stands. Is it not better to preserve your precious principles than to be paid in full at the present time? We will continue this endeavor and solicit the help of every physician in the state. We are willing to have anyone come to Harrisburg if they can in any way pry needed funds from the state treasury.

FRANK W. WHITE (Rockwood): I would like to ask Dr. Palmer if, in connection with this attempt to obtain funds from the D. P. A., he has emphasized the fact that relief rolls have been reduced very much more than the legislature envisaged when they made the appropriation, and that therefore there should be more money that has not been allocated on account of the reduced number on relief.

DR. PALMER: Yes, Doctor. We have argued that out with the department, and it is quite true that the Public

Assistance recipients now obtaining employment are among the healthiest.

SPEAKER SCHNABEL: I have information that we must vacate this room at 1:45 p.m. We should act on a motion to adopt recommendations in the items of the report of your Reference Committee on Reports of Officers and Standing Committees.

The question was called for.

SPEAKER SCHNABEL: All those in favor of the adoption of this report, please say "aye"; opposed, "no." The report stands adopted.

There are 2 resolutions to be considered. They appear on page 1 of the Official Transactions, one presented by Councilor John J. Brennan that The Medical Society of the State of Pennsylvania be requested to establish a permanent department of hospital activities.

The other one was presented by the Philadelphia County Medical Society, recommending that the Pennsylvania Plan covering the intramural training in penal psychiatry be placed on the agenda for adoption by The Medical Society of the State of Pennsylvania at its 1940 annual session.

Unless there is objection, the first of these resolutions will be referred to the Committee on New Business, and the second one to the Committee on Scientific Business.

The Chair recognizes Dr. Donaldson.

SECRETARY DONALDSON: The by-laws require that the House of Delegates shall meet on Wednesday morning. We will meet in the Rose Room on the 18th floor tomorrow morning at the hour fixed by the House.

DR. CORWIN: I move that we adjourn to meet tomorrow morning at 9:30 o'clock.

The motion was seconded by Dr. Orthner, voted upon, and carried, and the meeting adjourned at 1:25 o'clock.

CHARLES H. HENNINGER, *President*,
TRUMAN G. SCHNABEL, *Speaker*,
WALTER F. DONALDSON, *Secretary*.

Wednesday Morning, Oct. 2, 1940

The House of Delegates convened at 9:50 a.m., Speaker Truman G. Schnabel presiding.

SPEAKER SCHNABEL: The meeting of the House of Delegates will please come to order.

The first item of business this morning is the roll call. Unless there is objection from the floor of the House, the roll call will be dispensed with.

The next item of business is the reading of the minutes of yesterday's session.

J. K. WILLIAMS WOOD (Troy): I move that they be dispensed with.

DR. WILSON: I second the motion.

SPEAKER SCHNABEL: All those in favor of this motion will say "aye"; opposed, "no." It is so ordered.

The next order of business is the election of officers.

DR. GAGION: I move that we proceed with the regular order of business.

The motion was seconded.

DR. WOOD: I am favorable to that action with the exception of the election of a speaker and vice-speaker. The delegates to the 1941 session of this House have been chosen by only a few county societies. Why should this 1940 House of Delegates elect the speaker and vice speaker and say to the 1941 House, "Here they are."

I move that an amendment be made to Dr. Gagion's motion that we proceed with the order of business, except the election of a speaker and vice-speaker.

SPEAKER SCHNABEL: Section 2, Chapter IV, of the by-laws reads: "The election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the second day of the general session. This order of business may be postponed to a definite time and place by a two-thirds vote of those present."

SECRETARY DONALDSON: Mr. Speaker, may I suggest that you read Section 5 of Chapter IV?

SPEAKER SCHNABEL: The Chair recognizes Secretary Donaldson.

SECRETARY DONALDSON: Section 5 is devoted to Installation of Officers: "The officers of this society, except the president and the speaker and vice-speaker of the House of Delegates, shall assume their duties at the close of the last meeting of the annual session at which they are elected."

Did not the House of Delegates in adopting that amendment to Section 5 have in mind that which would correct the situation Dr. Wood complains of?

SPEAKER SCHNABEL: The election of a speaker at this time would seem to be in accord with the by-laws. The Chair will welcome a substitute motion that will definitely support him in that opinion.

FRANK W. BURGE (Philadelphia): I move that we proceed with the election of officers in full as provided for in the by-laws.

The motion was seconded.

SPEAKER SCHNABEL: All those in favor of this motion, please say "aye"; opposed, "no." It is so ordered.

The Chair, then, is ready to entertain motions for nomination of a president-elect.

DR. GAGION: Mr. Speaker and Members of the House of Delegates: In 1899 this society prospered under the presidency of George W. Guthrie, of Luzerne County. He was an able, splendid leader, as those members who are still with us from that date can testify. In 1912 the Luzerne County Society was proud and pleased again to present for consideration as your president Lewis H. Taylor. His subsequent administration was marked by accomplishments favorable in comparison to those of Dr. Guthrie, his predecessor from our county.

This morning, members of the House of Delegates, we present for your consideration, and we hope your favorable consideration, a man who is worthy of the illustrious men who have served this society. He is Lewis Taylor Buckman, who seems peculiarly fitted for the position of the presidency of the society. He is the son of Dr. E. U. Buckman, whose professional and ethical standing is high not only in his community but throughout the state. He was reared in the very atmosphere of all the fine things that organized medicine stands for, since his preceptor was none other than his illustrious uncle, Lewis H. Taylor, our former president.

Dr. Buckman represents everything that this society stands for and everything that this society needs in leadership. He is old enough to have formed mature opinions. He is old enough to have had a wealth of experience and a background, especially in medical economics, which our leader must needs have in these days of changing social values. He is young enough to bring to the office the vigor that it demands. His work both as a member of our State Society's Committee on

Medical Economics and as its chairman during the past year is outstanding. His ethical standards and his professional attainments are extremely high.

He is, after all, everything that this society needs in its leader. We present him to you, gentlemen, not as a favorite son, not because he comes from one of the so-called outlying counties, but we present him because we who know him best and you who know him well will agree, we are confident, that Dr. Buckman is the type of man who should be president of The Medical Society of the State of Pennsylvania. Therefore, Mr. Speaker, I place in nomination for the office of president-elect the name of Lewis Taylor Buckman.

SPEAKER SCHNABEL: The Chair recognizes Dr. Lewis of Lackawanna County.

JAMES D. LEWIS (Scranton): The Lackawanna County Society, neighbor to Luzerne, wishes to second the nomination of Dr. Buckman as president-elect of this State Society.

The nomination of Lewis Taylor Buckman was seconded also by delegates from the following component societies: Northampton, Allegheny, Schuylkill, Lycoming, Erie, York, and Philadelphia.

SPEAKER SCHNABEL: The Chair will entertain any further nominations.

CURTIS C. MECHLING (Pittsburgh): Mr. Speaker, I move that the nominations for president-elect be closed.

The motion was seconded by Dr. Corwin.

SPEAKER SCHNABEL: It is moved and seconded that nominations for the office of president-elect be closed. Those in favor of this motion say "aye"; opposed, "no." It is carried. Unless there be objection, Lewis T. Buckman, the only nominee for president-elect, is declared elected.

The Chair will now accept nominations for the office of first vice-president.

FRANK W. BURGE (Philadelphia): I wish to place in nomination for first vice-president the name of J. Hart Toland, of Philadelphia, a man who is responsible for much of the success of this year's meeting.

SPEAKER SCHNABEL: Dr. Toland's name has been presented for the office of first vice-president. Any further nominations?

DR. GAGION: I move that the nominations be closed. The motion was seconded.

SPEAKER SCHNABEL: All those in favor of closing the nominations for the office of first vice-president will please say "aye"; opposed, "no." It is so ordered.

J. Hart Toland is declared to be the first vice-president.

While we are in the process of electing vice-presidents, the speaker will request that 2 members of the House search for Dr. Buckman and escort him to the desk.

The Chair will now entertain motions for the nomination of second vice-president.

T. LAMAR WILLIAMS (Mt. Carmel): I take great pleasure in nominating for the office of second vice-president, Christian Gruhler, of Shenandoah.

SPEAKER SCHNABEL: Any further nominations?

JOHN J. SWEENEY (Highland Park): I move that the nominations be closed.

CHARLES V. HOGAN (Pottsville): I second the motion.

SPEAKER SCHNABEL: It has been moved and seconded that nominations for second vice-president be closed. Those in favor of this motion, please say "aye"; opposed, "no." It is carried. Dr. Gruhler then becomes second vice-president and it is so declared.

Nominations are in order for the office of third vice-president.

STUART B. GIBSON (Williamsport): I should like to place in nomination for third vice-president Walter S. Brenholtz, of Williamsport.

SPEAKER SCHNABEL: Dr. Brenholtz' name is placed in nomination for third vice-president. Any further nominations?

JAMES D. STARK (Erie): I move that the nominations be closed.

DR. BURGE: I second the motion.

SPEAKER SCHNABEL: A motion has been made and seconded that nominations for third vice-president be closed. All those in favor, say "aye"; opposed, "no." The motion is carried and Dr. Brenholtz is herewith declared to be third vice-president of the society.

Nominations are in order for fourth vice-president.

ELWOOD T. QUINN (Jenkintown): I nominate Walter J. Stein, of Ardmore.

SPEAKER SCHNABEL: Dr. Stein's name has been placed in nomination for fourth vice-president. Any further nominations?

JOHN W. BARR (Johnstown): I move that nominations for fourth vice-president be closed.

The motion was seconded.

SPEAKER SCHNABEL: It has been moved and seconded that nominations for fourth vice-president be closed. Those in favor of this motion, please say "aye"; opposed, "no." It is carried. Dr. Stein is declared to have become the fourth vice-president.

The Chair will entertain nominations for the position of secretary.

HENRY T. PRICE (Pittsburgh): I nominate Walter F. Donaldson, of Pittsburgh.

DR. QUINN: I second the nomination of Dr. Donaldson.

SPEAKER SCHNABEL: Walter F. Donaldson is nominated for the position of secretary. Any further nominations?

WALTER ORTHNER (Huntingdon): I move that the nominations be closed.

DR. HOGAN: I second the motion.

SPEAKER SCHNABEL: It has been moved and seconded that nominations for the office of secretary be closed. Those in favor of the motion, please say "aye"; opposed, "no." It is carried. Dr. Donaldson then becomes secretary of the society.

Nominations for the position of assistant secretary are in order.

DR. STARK: I should like to nominate Henry G. Munson, of Philadelphia.

SPEAKER SCHNABEL: Dr. Munson of Philadelphia has been nominated for the office of assistant secretary.

DR. BURGE: I move that the nominations be closed.

The motion was seconded.

SPEAKER SCHNABEL: It has been moved and seconded that nominations be closed for the office of assistant secretary. All those in favor of that motion, say "aye"; opposed, "no." It is carried.

Dr. Munson becomes the assistant secretary.

Nominations are in order for the office of treasurer.

CHARLES I. SHAFFER (Somerset): I take pleasure in putting in nomination the name of John B. Lowman for treasurer.

SPEAKER SCHNABEL: Dr. Lowman is nominated for the office of treasurer. Any further nominations?

DR. GIBSON: I move that the nominations be closed. The motion was seconded.

SPEAKER SCHNABEL: All those in favor of this motion, say "aye"; opposed, "no." It is carried.

Dr. Lowman becomes the treasurer of the society.

The speaker yields to the vice-speaker.

VICE-SPEAKER HARRIS: We will now entertain motions for nomination of a speaker of the House of Delegates.

DR. RICHARDS: I nominate Truman G. Schnabel, of Philadelphia.

DR. WILLIAMS (Mt. Carmel): Schuylkill County Society heartily seconds that nomination.

Delegates from Dauphin, Cambria, York, Lehigh, and Washington counties also seconded the nomination.

VICE-SPEAKER HARRIS: Any further nominations?

DR. ORTHNER: Mr. Vice-speaker, I move that the nominations be closed.

DR. PRICE: I second the motion.

VICE-SPEAKER HARRIS: It is moved and seconded that the nominations be closed. Those in favor, say "aye"; opposed, "no." The "ayes" have it.

Dr. Schnabel, you are declared elected speaker.

SPEAKER SCHNABEL: The Chair will now entertain a motion for nominations for the office of vice-speaker of the House.

DR. ORTHNER: I wish to place in nomination for vice-speaker the name of George R. Harris, of Pittsburgh.

SPEAKER SCHNABEL: Dr. Harris has been nominated for the position of vice-speaker.

DR. LEWIS (Scranton): I would like to second the nomination of Dr. Harris.

GEORGE L. LAVERTY (Harrisburg): Mr. Speaker, I move that the nominations be closed.

DR. CORWIN: I second the motion.

SPEAKER SCHNABEL: It has been properly moved and seconded that the nominations for vice-speaker of the House be closed. Those in favor of this motion, please say "aye"; opposed, "no." It is so ordered.

Dr. Harris is declared elected vice-speaker of the House.

The next order of business is the election of a trustee and councilor for the Third District to serve for 5 years to succeed John J. Brennan, of Scranton.

LEONARD G. REDDING (Scranton): Five years ago I placed in nomination the name of John J. Brennan, of Scranton, and it gives me great pleasure and happiness now to place in nomination again the name of Dr. Bren-

nan to succeed himself as trustee and councilor for the Third Councilor District.

SPEAKER SCHNABEL: Dr. Brennan's name is presented.

DR. GAGION: Mr. Speaker, because we know so well the splendid work of Dr. Brennan during the past 5 years, it is with a great deal of pleasure that Luzerne County seconds his nomination.

The nomination of Dr. Brennan was also seconded by representatives of the Schuylkill, Northampton, Carbon, and Wayne-Pike County Societies.

SPEAKER SCHNABEL: Any further nominations?

DR. WILLIAMS (Mt. Carmel): I move that the nominations be closed.

The motion was seconded.

SPEAKER SCHNABEL: It has been moved and seconded that nominations be closed for the office of trustee and councilor for the Third District. Those in favor of this motion, say "aye"; opposed, "no." It is carried.

Dr. Brennan, then, is declared elected trustee and councilor for the Third District.

The Chair will entertain nominations for the office of trustee and councilor for the Ninth District to serve for 5 years to succeed Alexander H. Stewart, of Indiana. Dr. Stewart is ineligible for re-election, having served 2 full consecutive terms totaling 10 years.

JAMES G. GEMMELL (McIntyre): I wish to place in nomination the name of Frank A. Lorenzo, of Punxsutawney.

BLAINE E. CARBERRY (Ford City): We wish to place in nomination the name of T. Craig McKee, of Kittanning.

FRANK W. BURGE (Philadelphia): I take great pleasure in seconding the nomination of Dr. McKee.

PETER H. DALE (State College): I would like to place in nomination the name of S. Meigs Beyer, of Punxsutawney.

LEO P. GIBBONS (Scranton): Lackawanna County wishes to second the nomination of Dr. Lorenzo.

VICE-SPEAKER HARRIS: Allegheny County wishes to second the nomination of Dr. Lorenzo.

H. MALCOLM READ (York): York County would like to second the nomination of Dr. Lorenzo.

CLINTON R. COULTER (Parkers Landing): We would like to place in nomination the name of Ford M. Summerville, of Oil City.

ALBERT R. FEINBERG (Wilkes-Barre): I would like to second the nomination of Dr. Lorenzo.

SPEAKER SCHNABEL: Any further nominations?

ROBERT P. BANKS (Mifflintown): I move that the nominations be closed.

KENNETH S. SCOTT (Oakbourne): I second the motion.

SPEAKER SCHNABEL: The motion is carried.

We will proceed with the election of a trustee and councilor for the Ninth District. The tellers will be James H. Corwin, Joseph Scattergood, Jr., and Walter Orthner. They will please spread the ballots.

SPEAKER SCHNABEL: The Chair takes pleasure in requesting that President-elect Buckman be escorted to the Speaker's chair.

PRESIDENT FRANCIS F. BORZELL: Members of the 1940 House of Delegates of The Medical Society of the State of Pennsylvania, it gives me extreme pleasure to present to you your president-elect, Lewis Taylor Buckman, of Wilkes-Barre.

The House arose and applauded.

PRESIDENT-ELECT BUCKMAN: Mr. President, Mr. Speaker, and Members: There was once a young man for whom the start in life had been made easy, and to whom from time to time his fellows extended organizational assignments of ever-increasing responsibility and importance, and who made it a custom, as far as his own abilities permitted in the discharge of those duties, to do the best he could. That young man stands before you this morning to thank you for a new and a greater responsibility. It would be belittling the job, Mr. President, if I did not say it is an honor. It will not be magnifying it if I now emphasize the importance of the duties and responsibilities attached.

In accepting it, I give you my solemn declaration, as far as my own efforts and abilities are concerned, that the assignment will be carried out so that the interests of the organized medical profession of this state will continue to be carried forward for the common welfare not only of the people but of the profession.

DR. MECHLING: I call for the report of the Credentials Committee.

SPEAKER SCHNABEL: The Chair recognizes Dr. Donaldson.

SECRETARY DONALDSON: Mr. Speaker and Members of the House: The chairman of the Credentials Committee reports a total of 150 delegates having registered.

Secretary Donaldson called the roll, and the following responded:

ALLEGHENY COUNTY: Frederick M. Jacob, president; Harold B. Gardner, Chauncey L. Palmer, John F. McCullough, Charles R. Rinard, George R. Harris, John W. Stinson, Thomas L. McCullough, John W. Fredette, Charles H. Henninger, Curtis C. Mechling, Hugh E. McGuire, Norman C. Ochsenhirt, Henry T. Price.

ARMSTRONG COUNTY: Blaine E. Carberry, president; T. Craig McKee.

BEAVER COUNTY: Fred B. Wilson, Thomas W. McCreary.

BERKS COUNTY: Frank P. Lytle, William Krick.

BLAIR COUNTY: Charles S. Hendricks, president; Joseph D. Findley, Ralston O. Gettemy.

BRADFORD COUNTY: J. K. Williams Wood.

BUCKS COUNTY: Willard Tice.

BUTLER COUNTY: William J. Armstrong.

CAMBRIA COUNTY: John W. Barr.

CARBON COUNTY: Clinton J. Kistler.

CENTRE COUNTY: Peter H. Dale.

CHESTER COUNTY: Joseph Scattergood, Jr., secretary; Kenneth S. Scott.

CLARION COUNTY: Clinton R. Coulter, president; Connell H. Miller.

CLEARFIELD COUNTY: E. Noer Larsen, president; Ward O. Wilson.

DAUPHIN COUNTY: George L. Laverty, Hewett C. Myers.

DELAWARE COUNTY: Augustus H. Clagett, president; John J. Sweeney, C. Irvin Stiteler, Franklin E. Chamberlin.

ERIE COUNTY: James D. Stark.

FAYETTE COUNTY: Ralph L. Cox, president; Othello S. Kough, John N. Snyder.

FRANKLIN COUNTY: Charles S. McConnell.

HUNTINGDON COUNTY: Donald C. Malcolm, secretary; Walter Orthner.

INDIANA COUNTY: James G. Gemmell.

JEFFERSON COUNTY: Frank A. Lorenzo.

JUNIATA COUNTY: Robert P. Banks.

LACKAWANNA COUNTY: Leo P. Gibbons, president; Leonard G. Redding, James D. Lewis, Stanley W. Boland.

LANCASTER COUNTY: Charles S. Duttonhofer, president; James Z. Appel, Roy Deck, Samuel M. Hauck.

LAWRENCE COUNTY: Mary J. Baker.

LEBANON COUNTY: J. DeWitt Kerr.

LEHIGH COUNTY: Frederick G. Klotz, president; Robert L. Schaeffer, Paul C. Shoemaker.

LUZERNE COUNTY: William Baurys, president; Charles L. Shafer, Thomas R. Gagion, Albert R. Feinberg, Joseph V. Fescina.

LYCOMING COUNTY: Frederic C. Lechner, president; Stuart B. Gibson, Louis E. Audet.

McKEAN COUNTY: Francis S. Bodine.

MERCER COUNTY: William W. Richardson.

MONTGOMERY COUNTY: J. Newton Hunsberger, Joseph E. Beideman, Elwood T. Quinn.

NORTHAMPTON COUNTY: Dudley P. Walker, secretary; W. Gilbert Tillman.

PERRY COUNTY: John E. Romig.

PHILADELPHIA COUNTY: Pascal F. Lucchesi, William D. Stroud, Jacob M. Cahan, Stanley P. Reimann, Edward W. Beach, Walter S. Cornell, Frank W. Konzelmann, Frank W. Burge, J. Hart Toland, Joseph T. Cadden, Dorothy C. Blechschmidt, Seth A. Brumm.

SCHUYLKILL COUNTY: Charles V. Hogan, president; T. Lamar Williams, Christian Gruhler.

SOMERSET COUNTY: Frank W. White, Charles I. Shaffer.

SUSQUEHANNA COUNTY: Park M. Horton.

VENANGO COUNTY: Donovan C. Blanchard, president; Ford M. Summerville.

WARREN COUNTY: Hilding A. Bengs, secretary.

WASHINGTON COUNTY: James H. Corwin, Milton F. Manning.

WAYNE-PIKE COUNTY: William L. Roberts.

WYOMING COUNTY: Lorne T. MacDougall.

YORK COUNTY: H. Malcolm Read, secretary; Milton H. Cohen.

SECRETARY DONALDSON: That concludes the roll call, 107 delegates having responded as being present.

SPEAKER SCHNABEL: Has every delegate here voted who wishes to vote? The poll is declared closed.

The tellers will proceed to count the ballots, the assistant secretary to record them. . . .

SPEAKER SCHNABEL: The secretary reports 104 votes cast. Dr. Lorenzo received 57 votes, Dr. McKee 29, Dr. Summerville 13, Dr. Beyer 5. Dr. Lorenzo has a majority of the votes and is declared elected trustee and councilor for the Ninth District to serve for 5 years.

The next order of business is the report of the Committee on Society Comity and Policy, who will submit nominations for delegates and alternates to the American Medical Association meeting.

The Chair recognizes Dr. Donaldson.

SECRETARY DONALDSON: Mr. Speaker and Members of the House, I would like to announce first that William H. Howell, of Altoona, who was a member of this committee, died late in August.

I have in my hand the report of the committee handed to me by its chairman, Jay B. F. Wyant, and signed by Drs. Wyant and Sidney A. Chalfant.

They nominate for delegates to the American Medical Association, to serve in the years 1941 and 1942, the following: Francis F. Borzell, Philadelphia; Walter F. Donaldson, Pittsburgh; James H. Corwin, Washington; Leonard G. Redding, Scranton; and Charles H. Henninger, Pittsburgh.

SPEAKER SCHNABEL: You have heard the nominations presented by the Committee on Society Comity and Policy. Are there any further nominations from the floor?

HUGH E. McGUIRE (Pittsburgh): I move that the nominations be closed.

DR. LORENZO: I second the motion.

SPEAKER SCHNABEL: It has been moved and seconded that nominations as presented by the Committee on Society Comity and Policy be closed. All those in favor of this motion, please say "aye"; opposed, "no."

The Chair, I think, can be properly considered as instructed to cast the unanimous ballot for the nominees as just read by the secretary.

Now, the alternates.

SECRETARY DONALDSON: Alternates-designate, 11 to be elected to serve for one year, through the year 1941. The committee has nominated but 7. They are John D. McLean, Philadelphia; Herbert B. Gibby, Wilkes-Barre; W. Burrill Odenatt, Philadelphia; William L. Estes, Jr., Bethlehem; Clarence R. Phillips, Harrisburg; Charles I. Shaffer, Somerset; and William J. Armstrong, Butler.

SPEAKER SCHNABEL: You have heard the nominations presented, 7 in number, for alternates-designate. There should be 4 more nominations from the floor. Do I hear nominations?

KENNETH S. SCOTT (Oakbourne): I nominate Joseph Scattergood, Jr.

T. LAMAR WILLIAMS (Mt. Carmel): I nominate J. Stratton Carpenter, of Pottsville.

THOMAS W. McCREARY (Monaca): I nominate James L. Whitehill, of Beaver.

DONOVAN C. BLANCHARD (Franklin): I nominate James D. Stark, of Erie.

SPEAKER SCHNABEL: Any further nominations?

DR. WOOD: I move that the nominations be closed.

DR. ORTHNER: I second the motion.

SPEAKER SCHNABEL: It has been properly moved and seconded that nominations for alternates-designate be closed. All those in favor of this motion, please say "aye"; opposed, "no." It is so ordered.

Alternates-at-large.

SECRETARY DONALDSON: Eleven alternates-at-large, to serve during the year 1941, are to be elected. The committee has nominated Laurrie D. Sargent, Washington; Harold M. Griffith, Johnstown; Joseph Scattergood, Jr., West Chester; Augustus S. Kech, Altoona; Robert D. Donaldson, Kane; Edward L. Bortz, Philadelphia; Elmer Hess, Erie; and Hugh E. McGuire, Pittsburgh.

Since Dr. Scattergood has already been nominated an alternate-designate, and the nominations have been closed, I presume we should not consider him for alternate-at-large.

Mr. Speaker, that leaves 4 to be nominated from the floor.

SPEAKER SCHNABEL: The Chair will entertain nominations from the floor for 4 alternates-at-large.

DR. QUINN: I nominate J. K. Williams Wood, of Troy.

DR. WILLIAMS: I nominate Thomas R. Gagon, of Pittston.

DR. LEWIS (Scranton): I should like to nominate Curtis C. Mechling, of Pittsburgh.

DR. MECHLING: I respectfully decline. I have been an alternate and have served in the A. M. A. House of Delegates 2 years, and I have also served a full term as your elected delegate.

H. Malcolm Read, of York, and John J. Sweeney, of Highland Park, were then formally nominated.

SPEAKER SCHNABEL: Any further nominations?

DR. FEINBERG: I move that the nominations be closed.

DR. BLANCHARD: I second the motion.

SPEAKER SCHNABEL: It is regularly moved and seconded that nominations for alternates-at-large be closed. All those in favor of this motion, please say "aye"; opposed, "no." It is carried.

The Chair will entertain a motion that the secretary be instructed to cast a ballot for the 11 nominees for alternates-designate and 11 as alternates-at-large to serve in 1941.

DR. MECHLING: I make such a motion.

DR. FEINBERG: I second it.

SPEAKER SCHNABEL: Those in favor of this motion, please say "aye"; opposed, "no." It is so ordered.

SECRETARY DONALDSON: It is a pleasure, Mr. Speaker, to cast the unanimous ballot of this House for the election of the 27 members of The Medical Society of the State of Pennsylvania duly nominated to serve as delegates to the A. M. A. in 1941-42 and as alternates in 1941.

SPEAKER SCHNABEL: The Chair declares the election of these various delegates and alternates to the American Medical Association.

Now we come to the election of district censors, and the Chair recognizes Dr. Donaldson.

SECRETARY DONALDSON: Mr. Speaker and Members of the House: Following the established custom, the

secretary holds in his hand cards bearing the name of the nominee of each of the component societies, a member of each society, to serve as district censor, beginning October, 1940, and ending Oct. 8, 1941. I mention this at length because it is a subject of confusion in many county societies. A great many county medical societies assume that the day they nominate their district censor, their nominee begins his term of office. Each county medical society is today placing in nomination the name of one of its members who becomes an officer of The Medical Society of the State of Pennsylvania only after he is elected a district censor by the House of Delegates.

Mr. Speaker, if some delegate will move that this list of 60 names at present in the hand of the secretary be elected district censors from their respective county societies, to serve until Oct. 8, 1941, it will be duly appreciated.

DR. LAVERTY: Mr. Speaker, I move the election of the nominees for district censor.

The motion was seconded.

SPEAKER SCHNABEL: It has been properly moved and seconded that we elect the district censors, 60 in number, whose names Dr. Donaldson holds in his hand. All in favor say "aye"; opposed, "no." It is carried and they are declared duly elected. (See January, 1941, JOURNAL.)

Next in order is the election of affiliate members. The Chair recognizes Dr. Donaldson.

SECRETARY DONALDSON: Mr. Speaker and Members of the House: The following have been elected affiliate members by their respective component county societies, and have been recommended in due form for election to affiliate membership in The Medical Society of the State of Pennsylvania. With your permission, I shall read the entire list of nominees to be balloted upon.

AFFILIATE MEMBERS

Allegheny County: Frederic S. Kellogg, Logan M. Kifer, Edgar H. Sloan, Frank J. Walz.

Armstrong County: William J. Bierer.

Bedford County: Walter F. Enfield, Irvin C. Stayer.

Dauphin County: Mary Riggs Noble, Richard F. L. Ridgway.

Huntingdon County: John M. Beck.

Indiana County: Elmer E. Onstott.

Lackawanna County: John W. Grant.

Luzerne County: George W. Carr, Oliver F. Kistler, John H. Molinelli.

Monroe County: J. Anson Singer.

Montgomery County: Andrew Godfrey.

Montour County: Charles H. Dimm.

Northampton County: Charles H. Boyer, Joseph A. Stotz, Tyrus E. Swan.

Philadelphia County: Albert Engels Blackburn, Mary Buchanan, Andrew Callahan, Alexander H. Davisson, Edwin A. Heller, John A. McGlinn, Nathan Stauffer.

Potter County: James T. Hurd.

Warren County: Hiram B. Russell.

Westmoreland County: Martin E. Griffith.

York County: Charles J. Steim.

DR. GAGION: Mr. Speaker, I move that the nominees whose names were read by the secretary be elected affiliate members.

DR. READ (York): I second the motion.

SPEAKER SCHNABEL: It is properly moved and seconded that the names of the nominees as read by Dr. Donaldson be elected to affiliate membership. All those in favor of this motion, please say "aye"; opposed, "no." It is carried.

Mr. Secretary, how long have these men been marching in the ranks?

SECRETARY DONALDSON: To be eligible for affiliate membership, a member must be at least 65 years of age, and have been a member of his component society for at least 15 consecutive years prior to his election. Affiliate members continue to receive the JOURNAL.

SPEAKER SCHNABEL: The Chair recognizes Edgar S. Buyers, chairman of the Board of Trustees.

DR. BUYERS: Mr. Speaker and Members of the House of Delegates: The Board of Trustees recommends that the allotment of dues for the ensuing year remain the same as last year; namely, \$10.00, out of which shall be allocated to the Medical Defense Fund the amount of 10 cents, and to the Medical Benevolence Fund, \$1.00.

DR. QUINN: I move its adoption.
The motion was seconded.

SPEAKER SCHNABEL: All those in favor of this motion, say "aye"; opposed, "no." It is so ordered.

The Chair now recognizes the chairman of the Committee on Place of Meeting, Joseph Scattergood, Jr.

DR. SCATTERGOOD: Mr. Chairman and Members of the House of Delegates: The decision of the Committee on Place of Meeting was not a very difficult one this year. The 1941 session is to be held in Pittsburgh, and the Philadelphia County Medical Society has extended to us a very cordial invitation to meet in Philadelphia in 1942.

As chairman of the committee, I move that the 1942 session of The Medical Society of the State of Pennsylvania be held in Philadelphia.

DR. ARMSTRONG: I second the motion.

SPEAKER SCHNABEL: It has been properly moved and seconded that the meeting of the society be held in Philadelphia in 1942. All those in favor of this motion, please say "aye"; opposed, "no." It is so ordered.

The Chair now recognizes the chairman of the Reference Committee on New Business.

GEORGE L. LAVERTY (Harrisburg): Mr. Speaker, I will report for the chairman of our committee.

Additional Report of Reference Committee on New Business

Resolution presented by Trustee and Councilor John J. Brennan in the name of the Lackawanna County Medical Society proposing that this society establish a permanent department of hospital activities.

This resolution further proposes the rating of hospitals in the state and the periodic issuance of "announcements to the public of the state of their institutions."

This resolution proposes a duplication of effort in that hospitals are now surveyed and rated by the A. M. A., by the American College of Surgeons, and by the Pennsylvania Board of Medical Education and

Licensure. A rating of hospitals by this society would cost an appreciable sum of money, which is beyond the authority of this committee to recommend, and could be provided only through the budget approved by the trustees.

Your reference committee has given considerable thought to the fiscal and organizational activities of our society and made recommendations on the subject in our previous report. Therefore, we advise returning this resolution to the Board of Trustees as a subject suitable for their study.

(Signed) FRANCIS J. CONAHAN,
GEORGE L. LAVERTY,
EUGENE P. PENDERGRASS, *Chairman*.

Mr. Speaker, I move the adoption of this report and its recommendation.

DR. SCOTT (Oakbourne): I second it.

SPEAKER SCHNABEL: It has been properly moved and seconded that the report of the reference committee with respect to the resolution appearing on page 1 of the Official Transactions of the society be adopted.

It is carried.

The Chair now recognizes the chairman of the Reference Committee on Scientific Business.

Additional Report of Reference Committee on Scientific Business

WILLIAM J. ARMSTRONG (Butler): Mr. Speaker and Members of the House: The resolution by the Board of Directors of Philadelphia County Medical Society was placed before your Reference Committee on Scientific Business. The resolution is this:

"It is recommended that the Pennsylvania Plan covering intramural training in penal psychiatry be placed on the agenda for adoption by The Medical Society of the State of Pennsylvania at its 1940 annual session in Philadelphia."

Your reference committee feels that this plan for a postgraduate course of 2 years in criminal psychiatry has been excellently composed and is of great merit. Your committee, therefore, recommends approval of the Pennsylvania Plan.

(Signed) THOMAS R. GAGION,
FRANK W. KONZELMANN,
WILLIAM J. ARMSTRONG, *Chairman*.

Mr. Speaker, I move that this report of the Reference Committee on Scientific Business be adopted.

PRESIDENT BORZELL: Mr. Chairman, I fear that the recommendation of the committee as worded implies something that our State Medical Society cannot undertake. We should approve the plan and encourage its adoption by those who can develop it. Otherwise, we are really asking for the adoption of a program which does not quite fit in with the organization of the State Society.

DR. ARMSTRONG: If I may restate my motion, your Reference Committee on Scientific Business moves the approval of the plan by the House of Delegates.

DR. GAGION: I second the motion as restated.

SPEAKER SCHNABEL: All in favor of this motion, please say "aye"; opposed, "no." It is so ordered.

The speaker is ready to entertain any unfinished business.

W. GILBERT TILLMAN (Easton): Mr. Speaker, due to the fact that the oldest living past president of our

State Society, William L. Estes, Sr., of Bethlehem, Northampton County, is now unable to come to our meetings on account of his advanced years, I would consider it a graceful gesture on the part of the House of Delegates to instruct our secretary to send him a telegram of greetings from this body.

DR. GAGION: I second the motion.

SPEAKER SCHNABEL: All in favor of this very gracious motion, please say "aye"; opposed, "no." It is so ordered.

DR. GAGION: The committees appointed to carry on the work of this society have ample time in which to prepare annual reports of their work. At the Monday afternoon session of the House annually, many of these reports sketchily prepared are dumped into the lap of a reference committee. At about the same time such a committee that has had a year to summarize its work comes along with a supplemental report. We then expect our reference committees to stay up half the night to go over the original as well as the supplemental report, which usually does not contain anything of an emergency character. We ask our reference committees to bring in at 9 or 10 o'clock the following morning an intelligent report with a crystallized principle and expressions of some consistent judgment attached to it. This is entirely wrong. Too many things arise these days in medicine that require deliberate thinking and study.

Therefore, Mr. Speaker, I move that, unless an emergency arises, no committee be permitted to submit a supplemental report during the first session of this House of Delegates.

DR. HUNSBERGER: I second the motion.

DR. LAVERTY: I offer as an amendment that the committees choosing to submit a supplemental report should place copies in the hands of the secretary for distribution to the members of the proper reference committee 2 weeks prior to the assembling of the House of Delegates.

DR. GAGION: The amendment is acceptable.

WALTER S. BRENHOLTZ (Williamsport): As a member of the Committee on Medical Economics I have for several years met with that committee on the Sunday night preceding the first session of the House. This year there were 3 important propositions that came up very recently but required free discussion after study before the committee reached some definite conclusions. Had it been necessary to submit these a half month before, it would have been necessary to call a special meeting of our large committee, which with a good attendance flanked by 3 ex officio members met here last Sunday night. Economy is one of the reasons why there should be some latitude permitted; otherwise, important topics might wait for a year before reaching the House of Delegates.

SECRETARY DONALDSON: I would like to rehearse briefly a bit of administrative machinery for the benefit of the members of the House before they vote on this subject. All officers, standing and special committees are asked annually to submit their reports not later than Aug. 5 in order that they may be printed in the September JOURNAL. This leaves an interim of almost 2 months, from Aug. 5 until the first week in October. Therefore, most of the supplemental reports that are brought in after the House is in session cover experiences and activities of officers and committees within

the 2 months August and September, preceding the annual session of the House of Delegates.

Dr. Brenholtz has brought to your attention a point that appeals very much to the Board of Trustees in the policy of encouraging meetings of committees during the annual session, so that it is unnecessary to call meetings of a large committee at Harrisburg or other points at considerable expense.

DR. GAGION: We have no desire whatsoever to obstruct the machinery and the flow of business of this society. If there is a recognized emergency in economics, or something of that nature, it will be fine to introduce last-minute supplemental reports, but to have a committee come in an hour after this session is open with a supplemental report on the control of some disease that has been present since the beginning of time just doesn't make sense.

JAMES H. CORWIN (Washington): Mr. Speaker, I have been in the House a great many years, and it has always been the custom for a number of resolutions to be introduced the first day and referred to the reference committees, they to report later during the session.

ELWOOD T. QUINN (Jenkintown): I think it would be a mistake to go on record to exclude all supplemental reports.

SPEAKER SCHNABEL: The motion, then, as I have it submitted in writing, is that no committee be allowed to submit a supplemental report to this House of Delegates, except in case of an emergency, on or after the call to order of the first session of the House.

The amendment is as follows: Supplemental reports of committees presented during the first session of the House of Delegates, emergencies excepted, to be submitted to the secretary's office at least 10 days prior to the first session of the House of Delegates.

The question is on the amendment. Any further discussion?

WALTER S. CORNELL (Philadelphia): It is my own ignorance, but how does a committee know what reference committee is going to get its report 10 days in advance?

SPEAKER SCHNABEL: After their receipt at the secretary's office and consultation with the president, they are forwarded to the members of the proper reference committees.

SPEAKER SCHNABEL: Those in favor of the amendment, please say "aye"; those opposed, "no." The "ayes" have it. It is so ordered.

SPEAKER SCHNABEL: A standing vote is called for. All those in favor of the amendment, please rise. Will those opposed please rise? Seventeen in favor and 41 opposed. The amendment is lost.

The question now is on the motion. Any more discussion?

PRESIDENT BORZELL: I should like to say a word concerning this motion in view of past experience as chairman of one of our society's important committees. If this motion is adopted, in many instances it will very definitely handicap the business of the society. I am quite sympathetic with the spirit back of it, that is, to relieve the reference committees, perhaps, of late hours. However, anyone who has participated in meetings of the House of Delegates of the American Medical Association and observed the long hours that must be given to reference committees, and the many members of the House of Delegates taking opportunity to attend and

discuss the referred reports and subjects, is sure to be sympathetic to the tasks and to the responsibilities that are placed upon our reference committees.

Unfortunately, our time is always limited and we must ask the reference committee members to sacrifice a few hours of profit or pleasure in performing their tasks for their society. To adopt this motion might definitely handicap functions of the society that would prove embarrassing in some instances.

SPEAKER SCHNABEL: Any further discussion?

The question was called for.

SPEAKER SCHNABEL: The question is on this motion. Please read the motion again. All those in favor, please say "aye"; opposed, "no." The "noes" have it and the motion is lost.

Any further business?

J. NEWTON HUNSBERGER (Norristown): I move that this organization extend a hearty vote of thanks to the Philadelphia County Medical Society for courtesy and kindness extended during the session, and especially for the preliminary work of its various convention committees.

DR. ORTHNER: I second the motion.

SPEAKER SCHNABEL: All those in favor of this motion, please say "aye"; opposed, "no." It is so ordered. Any other new business?

JAMES Z. APPEL (Lancaster): Mr. Speaker and Members of the House of Delegates: I first want to apologize for presenting a new resolution at this late hour. We were delayed in getting it here. It is as follows:

RESOLUTION

WHEREAS, There are at the present time numerous lay organizations supporting specialized clinics in counties in the State of Pennsylvania, and

WHEREAS, These lay organizations employ specialists from other districts for these clinics without consultation or advice from the local county medical society, and in spite of the fact that said county may have thoroughly competent and recognized specialists in the particular field of service concerned; therefore, be it

Resolved, That the Board of Trustees of The Medical Society of the State of Pennsylvania be requested to study this matter during the ensuing year and render a report at the 1941 meeting of the House of Delegates.

I move that the resolution be adopted, Mr. Speaker. The motion was seconded.

SPEAKER SCHNABEL: It has been properly moved and seconded that the resolution just read by Dr. Appel be adopted by this House of Delegates. Is there discussion? All those in favor, say "aye"; opposed, "no." It is so ordered.

Any further business?

HENRY T. PRICE (Pittsburgh): Mr. Speaker, Allied Relief, Inc., has a plan to collect used surgical instruments, roentgen-ray and other hospital equipment, to relieve suffering and distress in Great Britain. On Sept. 25 the Pittsburgh committee decided to embark upon a program for collecting these instruments throughout Pennsylvania. I present this to the House of Delegates for their sympathetic action.

I move, Mr. Chairman, that the House of Delegates approve this plan for collection of old instruments and hospital appliances for Allied Relief, Inc.

SPEAKER SCHNABEL: Dr. Price moves that—will you please restate it just once again?

DR. PRICE: That the House give its approval to this plan of Allied Relief, Inc., for the collection of used instruments and apparatus from physicians and hospitals.

The motion was seconded.

SPEAKER SCHNABEL: Those in favor, please say "aye"; those opposed, "no." It is carried.

DR. ORTHNER: Mr. Speaker, I move that the 1940 session of the House of Delegates of The Medical Society of the State of Pennsylvania adjourn *sine die*.

The motion was seconded.

SPEAKER SCHNABEL: A motion is made and seconded that we adjourn *sine die*. All those in favor, please say "aye"; opposed, "no." The House of Delegates stands adjourned.

The meeting adjourned at 11:45 o'clock.

FRANCIS F. BORZELL, *President*,
TRUMAN G. SCHNABEL, *Speaker*,
WALTER F. DONALDSON, *Secretary*.

Daily Record of Attendance of Members of the House of Delegates Representing Component County Societies at the Philadelphia Session, 1940

(Figures indicate the number of elected delegates to which the county society is entitled, plus its president or its secretary. The House of Delegates met on Monday afternoon and on Tuesday and Wednesday mornings, Sept. 30 and Oct. 1 and 2. The letter M following a name indicates the presence of the delegate on Monday; T, on Tuesday; and W, on Wednesday.)

ADAMS—2

No representation.

ALLEGHENY—16

Frederick M. Jacob, M T W; John W. Fredette, M T W; Zoe Allison Johnston, M T; John F. McCullough, M T W; Thomas L. McCullough, M T W; Hugh E. McGuire, M T W; Curtis C. Mechling, M T W; Norman C. Ochsenhirt, M T W; Chauncey L. Palmer, M T W; Henry T. Price, M T W; John W. Stinson, M T W; George R. Harris, M T W; Charles C. Rinard, T W; Harold B. Gardner, W; Charles H. Henninger, W.

ARMSTRONG—2

Blaine E. Carberry, M T W; T. Craig McKee, M T W.

BEAVER—3

George B. Rush, M T; Thomas W. McCreary, M T W; Fred B. Wilson, M T W.

BEDFORD—2

No representation.

BERKS—3

Charles E. Lerch, M T; Frank P. Lytle, M T W; William Krick, T W.

BLAIR—3

Charles S. Hendricks, M T W; Ralston O. Gettemy, M T W; Joseph D. Findley, M W.

BRADFORD—2

J. K. Williams Wood, M T W.

BUCKS—2

Willard H. Tice, M T W.

BUTLER—2

William J. Armstrong, M T W.

CAMBRIA—3

Bernard J. McCloskey, T W; John W. Barr, M T W.

CARBON—2

Clinton J. Kistler, M T W.

CENTRE—2

Peter H. Dale, M T W.

CHESTER—3

Frank B. Robinson, M; Joseph Scattergood, Jr., M T W; Kenneth S. Scott, M T W.

CLARION—2

Clinton R. Coulter, M T W; Connell H. Miller, T W.

CLEARFIELD—2

E. Noer Larsen, M T W; Ward O. Wilson, M T W.

CLINTON—2

Henry G. Hager, Jr., T W; David W. Thomas, T W.

COLUMBIA—2

C. W. Ashley, T W; Charles M. Hower, T.

CRAWFORD—2

No representation.

CUMBERLAND—2

Newton W. Hershner, M T W.

DAUPHIN—4

George L. Lavery, M T W; Hewett C. Myers, M T W; Carl E. Ervin, T.

DELAWARE—4

Augustus H. Clagett, M T W; Franklin E. Chamberlin, M W; C. Irvin Stiteler, M T W; John J. Sweeney, M T W.

ELK—2

Robert C. Simpson, M T W.

ERIE—3

George F. Stoney, M; James D. Stark, T W; Kenneth S. Treiber, M T W.

FAYETTE—3

Ralph L. Cox, T W; Othello S. Kough, M T W; John N. Snyder, T W.

FRANKLIN—2

Charles S. McConnell, M T W.

GREENE—2

No representation.

HUNTINGDON—2

Donald C. Malcolm, W; Walter Orthner, M T W.

INDIANA—2

James G. Gemmell, M T W.

JEFFERSON—2

Frank A. Lorenzo, M W.

JUNIATA—2

Robert P. Banks, T W.

LACKAWANNA—4

Leo P. Gibbons, M T W; Leonard G. Redding, M T W; James D. Lewis, T W; Stanley W. Boland, W.

LANCASTER—4

Charles S. Duttonhofer, M T W; James Z. Appel, M T W; Roy Deck, M T W; Samuel M. Hauck, M W.

LAWRENCE—2

Mary J. Baker, M T W.

LEBANON—2

Paul S. Seabold, T W; J. DeWitt Kerr, M T W.

LEHIGH—3

Frederick G. Klotz, M T W; Robert L. Schaeffer, M T W; Paul C. Shoemaker, M T W.

LUZERNE—5

William Baurys, T W; Albert R. Feinberg, M T W; Thomas R. Gagon, M T W; Charles L. Shafer, M T W; Joseph V. Fescina, T W.

LYCOMING—3

Frederic C. Lechner, M T W; Louis E. Audet, M T W; Stuart B. Gibson, M T W.

MCKEAN—2

Robert D. Donaldson, M T; Francis S. Bodine, M T W.

MERCER—2

William W. Richardson, M T W.

MIFFLIN—2

Charles J. Stambaugh, M; Joseph S. Brown, T.

MONROE—2

Claus G. Jordan, M; L. Jennings Hampton, T.

MONTGOMERY—4

Henry D. Reed, M T; Joseph E. Beideman, M T W; J. Newton Hunsberger, M T W; Elwood T. Quinn, M W.

MONTGOMERY—2

Sydney J. Hawley, M T W.

NORTHAMPTON—3

Dudley P. Walker, M W; W. Gilbert Tillman, M T W; Francis J. Conahan, M.

NORTHUMBERLAND—2

Henry T. Simmonds, M T W.

PERRY—2

John E. Romig, M W; J. Edward Book, T.

PHILADELPHIA—25

Edward L. Bortz, M T; Edward W. Beach, M W; Dorothy Case-Blechsmidt, M T W; Seth A. Brumm, M T W; Frank W. Burge, M T W; Joseph T. Cad-den, M W; Jacob M. Cahan, M W; J. Alexander Clarke, Jr., M T; Gilson Colby Engel, M T; Walter S. Cornell, M T W; Leonard D. Frescoln, M T; Ralph Getelman, M; Baldwin L. Keyes, M T W; Frank W. Konzelman, M T W; Pascal F. Lucchesi, M W; George P. Muller, M T; Eugene P. Pender-grass, M T; Joseph W. Post, M T; Rufus S. Reeves, M W; Stanley P. Reimann, M T W; William E. Robertson, M T W; William D. Stroud, M W; Charles N. Sturtevant, M T; J. Hart Toland, M T W; W. Burrill Odenatt, M.

POTTER—2

No representation.

SCHUYLKILL—3

Charles V. Hogan, M T W; Christian Gruhler, M T W; T. LaMar Williams, M T W.

SOMERSET—2

Frank W. White, M T W; Charles I. Shaffer, M T W.

SUSQUEHANNA—2

Park M. Horton, M W.

TIOGA—2

William Bache, Jr., M T; Harry Williams, M T.

VENANGO—2

Donovan C. Blanchard, M T W; Ford M. Summer-ville, M T W.

WARREN—2

Hilding A. Bengs, M T W; Quay A. McCune, T W.

WASHINGTON—3

Clarence J. McCullough, M T W; James H. Cor-win, M T W; Milton F. Manning, M T W.

WAYNE-PIKE—2

William L. Roberts, M T W.

WESTMORELAND—3

J. Barton Johnson, T W; R. E. Lee McCormick, M W; Paul G. McKelvey, T W.

WYOMING—2

Lorne T. MacDougall, M T W.

YORK—3

H. Malcolm Read, M T W; Harry B. Thomas, T; Milton H. Cohen, T W.

After calling the meeting to order, President Hen-ninger requested the audience to stand during the invocation given by the Rev. Reid S. Dickson, D.D., general secretary of the Board of Pensions of the Pres-byterian Church, U. S. A., during the singing of "America" by the audience accompanied by the or-chestra, and during the report of Milton Fraser Perci-val, chairman of the Necrology Committee.

REPORT OF COMMITTEE ON NECROLOGY

It is my unpleasant duty as chairman of the Committee on Necrology to report the death of 175 members during the past year. We, the living, pay tribute to their mem-ories and share in the sorrow of their beloved ones. The lives of many have been an inspiration and help toward higher perfection in our daily duties in our beloved pro-fession. May their good works lay up an abundant reward and live forever is the wish of your committee.

As their names have been published in THE PENN-SYLVANIA MEDICAL JOURNAL under the careful observa-tion of Secretary Donaldson, I shall not at this time mention them in this report.

ARTHUR B. FLEMING,
CLAUDE W. ASHLEY,
WALTER F. DONALDSON,
M. FRASER PERCIVAL, *Chairman*.

After a brief and cordial address of welcome by the Honorable Robert E. Lamberton, Mayor of the City of Philadelphia, Edward L. Bortz, president of the Philadelphia County Medical Society, extended a hearty welcome in the following well-chosen words:

ADDRESS OF WELCOME

Mr. Chairman, Mayor Lamberton, Dr. Borzell, dis-tinguished guests, ladies, and gentlemen:

In bidding you a cordial welcome to old Philadelphia, the members of the Philadelphia County Medical Society with its Woman's Auxiliary are happy and honored to offer you the hospitality of their homes and their com-panionship while you are visiting with us. We want you to enjoy yourselves thoroughly as our guests.

In describing the social atmosphere of Philadelphia as it was a century ago, Jack DaCosta in one of his inimitable essays remarked that "the hospitality of a Philadelphia gentleman was proverbial and—frequently alcoholic."

In our day we would have you experience the same warm friendship and hospitality as of yore, and let the question of spirits be one of personal persuasion.

In the paths of this great city are reminders of many of Medicine's immortals. What a brilliant array of talent comes to mind with the mention of Osler and Keen, DaCosta and Deaver, Agnew, Wier Mitchell, Mütter, Pepper, Fox, and many others!

We are gathered together today in great assembly, workers of a noble profession, in the shadow of Inde-pendence Hall. In these days of turbulent existence we would do well to visit again the very place where the fathers of our country conceived a new nation which is now ours to preserve.

Medical Philadelphia has much to offer the wandering physician and his lady. Important researches are being conducted by the faculties of the 5 great medical schools. Your old teachers and friends of bygone days look forward with eager zest and a warm thrill to the day of your return. There is joy in the prospect of happy reunion.

MINUTES OF THE GENERAL MEETINGS

Tuesday, Oct. 1, 1940

The installation meeting of the ninetieth annual session was held in the American Academy of Music, in Phila-delphia, on Tuesday evening, Oct. 1, at 8:30 o'clock, President Charles H. Henninger, of Pittsburgh, pre-siding.

For the lovely ladies, the social meetings of the week should prove attractive; and, Philadelphia shops are now gay in their autumnal glory.

The practice of medicine is not a business and never can be one. As Osler states, "The education of the heart, the human side of the man, must keep pace with education of the head." As some wise man once said, "Knowledge and wisdom, far from being one, have oft-times no connection."

There is stimulation in good fellowship; there is rejuvenation in the smile of old friends. So let these happy days during which we will be together present new views on old problems, a quickening interest in broader horizons, and a richer joy in the practice of medicine.

Our profession has a vital part to play in the affairs of the community and the nation. It has a great heritage to maintain. During these next few days may we settle our differences, unite ourselves for distinguished service, and rededicate our lives, if need be, that the medical profession, which is our God-given calling, may be prepared, when the time comes, to stand stalwart and strong and ready for action to the last full measure of devotion.

The doctors and their ladies of Philadelphia medicine extend to you their hands in hearty greeting.

* * *

Following brief announcements by J. Hart Toland and Fred D. Weidman, of Philadelphia, representing, respectively, the Local Committees on Arrangements and Scientific Exhibits, Charles L. Brown, of Philadelphia, chairman of the Committee on Scientific Work, responsible for the preparation and presentation of the 3-day scientific program, made the following remarks:

ANNOUNCEMENT OF SCIENTIFIC PROGRAM

President Henninger, officers and members of the society, and guests:

The Committee on Scientific Work has practically completed its work. This committee comprised of 24 men has worked harmoniously for several months to formulate the scientific program. At this time I wish to take the opportunity to thank publicly every member of this committee for his interest, co-operation, and sacrifice of time; without the efforts of every individual we could not have accomplished the task. Throughout the entire work a splendid spirit has prevailed, and it is to the credit of these men that you have your program today. They have been unselfish and untiring in the consideration of every minute detail.

A great variety of titles was available from which the final selection of papers was made. Every member who presented a title or request for a place on the program was given very careful consideration by the officers of the section to which the request was made, and finally the placement on the program represented the approval of the entire committee. The committee made special effort to select papers that would be of interest and of practical importance to the practitioner. In recent years there has been a healthy trend toward emphasis in therapy, which in turn has been further stimulated by the tremendous progress in new and effective therapeutic measures. A perusal of the program indicates that your committee has been mindful of this trend in that a predominance of the papers are of therapeutic interest. The committee believes that it has made a selection of papers that will be of interest to our entire membership.

Again this year the round-table conference method of discussing a subject of major importance was approved unanimously by the committee. Twenty-four subjects were carefully considered, from which 6 were chosen, as you will find them on the program. All 6 of these subjects should be of interest to the majority of the membership. The discussion of office surgical procedures by this plan should be of novel interest. The conference on industrial medicine should offer a splendid opportunity to crystallize thoughts and plans of this relatively newly recognized specialty, which promises to occupy a very important place in organized medicine.

A review of the complete program shows a total of 126 papers given by our members and 11 guest speakers. We are pleased in being able to offer you 11 outstanding men in their special fields and wish to express our appreciation to the Board of Trustees for their generosity in making this possible.

The scope of the papers given throughout the sections covers an extensive and comprehensive view of the practice of medicine and its specialties. A review of the essayists indicates a wide versatility among our own members and the program as a whole is quite representative of the geographic distribution of our members.

The program for each of the 3 days carries with it sufficient papers of interest to all to make each individual member not only willing but perhaps even anxious to remain for the final paper. At this time we wish to recognize the new Section on Clinical Laboratory Medicine, which has its first program this year. The officers of that section have arranged a splendid program that should be of interest even to those who are not doing roentgen-ray and laboratory work.

President Henninger, your Committee on Scientific Work presents the scientific program of the ninetieth annual session of the Medical Society of the State of Pennsylvania. It has been a pleasure to serve you.*

* * *

With the installation of Francis F. Borzell of Philadelphia as the ninety-fourth president of The Medical Society of the State of Pennsylvania holding its ninety-second annual session in the ninety-second year of its history, and the delivery of his presidential address which was published in full in the October, 1940, PENNSYLVANIA MEDICAL JOURNAL, the customary formal program was completed. Subsequently, a delightful program of entertainment was happily carried out, the president announcing that the artists and entertainers as scheduled in the September PENNSYLVANIA MEDICAL JOURNAL and on the printed program would be presented by Rufus S. Reeves, of Philadelphia, chairman of the Entertainment Committee of the Philadelphia County Medical Society.

Wednesday, Oct. 2, 1940

The meeting was called to order at 9:15 a.m. by the chairman, Charles L. Brown, Philadelphia.

M. A. Blankenhorn, Cincinnati, Ohio, guest speaker, presented a paper on "Recent Advances in Vitamin Therapy."

The balance of the morning was devoted to Round-Table Conferences on Vitamins, Industrial Medicine, and Industrial Health.

* (At this point the program was interrupted to permit the making of a panoramic photograph. The finished picture shows with remarkable clearness the occupants of the stage and of considerably more than one-half of the first floor of the Academy of Music. The speakers and one-fourth of the representative audience of about 1800 persons are easily recognizable.)

Thursday, Oct. 3, 1940

The meeting was called to order at 9:15 a. m. by the chairman.

Dale C. Stahle, Harrisburg, read a paper on "Pennsylvania Pneumonia Control Program."

Leon Schwartz, Philadelphia, read a paper on "Sulfathiazole in the Treatment of Pneumonia," which was discussed by John J. Shaw, Harrisburg; Kenneth S. Treiber, Erie; Leon Schwartz, Philadelphia; and Samuel Rubin, Philadelphia.

Baldwin L. Keyes, Philadelphia, read a paper on "The Importance of the Family Physician in the Treatment of Neurosis."

The remainder of the morning was devoted to Round-Table Conferences on Recent Advances in Chemotherapy, Peripheral Vascular Disease, and the Clinical Significance of Jaundice.

CHARLES L. BROWN, *Chairman*.

MINUTES OF THE SECTION ON MEDICINE

Tuesday, Oct. 1, 1940

The meeting was called to order at 2:30 p. m. by the chairman, Harry B. Wilmer, Philadelphia.

Alfred Gordon, Philadelphia, read a paper on "Cerebral Complications Following Acute Infectious Diseases; Therapeutic Value of Convalescent Serum." Discussed by Mitchell Bernstein, Philadelphia.

Wendell J. Stainsby, Danville, read a paper on "Paroxysmal Rapid Heart Action." Discussed by Joseph B. Cady, Sayre.

Murray B. Ferderber, Pittsburgh, read a paper on "Clinical and Physiologic Investigation of Air Conditioning." No discussion.

Matthew T. Moore, Philadelphia, read a paper on "Neurologic Problems Past Fifty." Discussed by Max H. Weinberg, Pittsburgh.

Robert R. Clark, Pittsburgh, read a paper on "Pyrexia of Obscure Origin." Discussed by Alexander H. Colwell, Pittsburgh.

Harry B. Thomas, York, read a paper on "Tularemia Pneumonia." Discussed by Hobart A. Reimann, Philadelphia.

John H. Willard, Philadelphia, read a paper on "Gallbladder Disease: The Diagnostic Significance of Faulty or Nonvisualization by Oral Cholecystography." Discussed by Stanley D. Conklin, Sayre.

The session adjourned at 5 o'clock.

Wednesday, Oct. 2, 1940

The meeting was called to order at 1:40 p. m. by the chairman.

Edward S. Dillon, Philadelphia, read a paper on "Statistical Studies of Diabetes in Pennsylvania." Discussed by Belford C. Blaine, Pottsville.

Joseph T. Beardwood reported for the Executive Committee and the following officers were elected for the coming year: Arthur B. Thomas, Pittsburgh, chairman; James A. Shelly, Ambler, secretary.

Francis D. Lukens, Philadelphia, read a paper on "Newer Physiology of Diabetes."

Joseph H. Barach, Pittsburgh, read a paper on "Symptomatology of Diabetes."

Anna O. Stephens, Laurelton, read a paper on "Treatment of Diabetes in Childhood."

Roland D. Porter, Abington, read a paper on "Dia-

betes in Pregnancy." Discussed by David W. Kramer, Philadelphia.

J. West Mitchell, Pittsburgh, read a paper on "Treatment of Diabetes in the Aged." Discussed by Frank A. Evans, Pittsburgh.

Garfield G. Duncan, Philadelphia, read a paper on "Diabetic Acidosis." Discussed by Herbert T. Kelly, Philadelphia.

Frederick A. Bothe, Philadelphia, read a paper on "The Surgical Diabetic." Discussed by William L. Estes, Jr., Bethlehem.

Joseph T. Beardwood, Jr., Philadelphia, read a paper on "Modern Diabetic Care."

The session adjourned at 4:40 p. m.

Thursday, Oct. 3, 1940

The meeting was called to order at 1:40 p. m. by the chairman.

John Eiman, Abington, read a paper on "Pathologic Aspects of Rheumatoid Diseases." Discussed by I. P. P. Hollingsworth, West Chester.

J. Donald Zulick's paper on "Roentgenographic Aspects of Rheumatoid Diseases" was read by Calvin L. Stewart, Abington.

C. Wesler Scull, Ph.D., Abington, read a paper on "Metabolic Aspects of Rheumatoid Diseases."

William I. Westcott, Doylestown, read a paper on "Etiology of Arthritis."

Clyde H. Kelchner, Allentown, read a paper on "Clinical Aspects of the Etiology of Rheumatoid Diseases."

Theodore F. Bach, Philadelphia, read a paper on "Focal Infections." Discussed by George M. Piersol, Philadelphia.

Damon B. Pfeiffer, Philadelphia, read a paper on "Reconstructive Surgery in Chronic Rheumatoid Arthritis."

Benjamin T. Bell, Philadelphia, read a paper on "Principles of Orthopedic Treatment of Arthritis." Discussed in conjunction with Dr. Pfeiffer's paper by DeForest P. Willard, Philadelphia.

Ralph Pemberton, Philadelphia, presented a "Coordination of Symposium Topics."

The chairman put to a vote the question of whether in the future there would be 3 or 2 meetings of the section at the annual sessions, and the vote was unanimously in favor of 3.

The session adjourned at 4:30 p. m.

HARRY B. WILMER, *Chairman*,
ARTHUR B. THOMAS, *Secretary*.

Members Registered in Section on Medicine (858)

ADAMS COUNTY MEDICAL SOCIETY—Edgar A. Miller, Gettysburg.

ALLEGHENY COUNTY MEDICAL SOCIETY—I. Hope Alexander, Joseph H. Barach, George Booth, Emilia M. Caprini, Robert R. Clark, Alexander H. Colwell, Alfred R. Cratty, Theodore Diller, Walter F. Donaldson, Pittsburgh; Lewis E. Etter, Warrendale; Frank A. Evans, Murray B. Ferderber, John N. Frederick, Harold B. Gardner, Milton Goldsmith, Alice S. Gularski, George R. Harris, Charles H. Henninger, Pittsburgh; William Hutchison, McKeesport; George J. Kastlin, William W. Lermann, John F. McCullough, Pittsburgh; William J. McGovern, James M. McNall, Woodville; William W. G. MacLachlan, C. Howard Marcy, Pittsburgh; Thomas A. Miller, Bellevue; J. West Mitchell, Pittsburgh; H. Wilson Morrow, Swiss-

vale; Joseph C. Noah, Imperial; Chauncey L. Palmer, L. Lewis Pennock, Henry M. Ray, Thomas T. Sheppard, Paul A. Sica, Thomas G. Simonton, James M. Strang, Arthur B. Thomas, Max H. Weinberg, Pittsburgh; Katherine S. Wiseman, Torrance; Alfred A. Zangrilli, Pittsburgh.

ARMSTRONG COUNTY MEDICAL SOCIETY—Jay B. F. Wyant, Kittanning.

BEAVER COUNTY MEDICAL SOCIETY—Donald W. Gressley, Fred B. Wilson, Beaver.

BERKS COUNTY MEDICAL SOCIETY—Robert M. Alexander, William S. Bertolet, John H. Bisbing, Reading; John L. Bower, Birdsboro; H. Philemon Brunner, Glenn A. Deibert, LeRoy W. Frederick, John E. German, Reading; Henry A. Gorman, Hamburg; Ralph L. Hill, Wernersville; William F. Krick, Reading; Charles E. Lerch, Wyomissing; John B. Levan, Howard U. Miller, Reading; George F. Potteiger, Hamburg; John R. Spannuth, Reading.

BLAIR COUNTY MEDICAL SOCIETY—Russell H. Barnes, Tyrone; Charles H. Bloom, Altoona; Carey C. Bradin, Tyrone; Ralston O. Gettemy, Augustus S. Kech, Altoona; Edwin B. Murchison, Tyrone; John O. Prosser, Hollidaysburg.

BRADFORD COUNTY MEDICAL SOCIETY—Joseph B. Cady, Stanley D. Conklin, Sayre; Edmund T. Lentz, Wyalusing; Philip H. Schwartz, Towanda; J. K. Williams Wood, Troy.

BUCKS COUNTY MEDICAL SOCIETY—F. Gurney Cope, Riegelsville; Charles T. Hunter, Newtown; John F. Keithan, Doylestown; William C. LeCompte, Bristol; Gulden Mackmull, Langhorne; Jesse E. Packer, Newtown; Willard H. Tice, Quakertown; William I. Westcott, Doylestown.

BUTLER COUNTY MEDICAL SOCIETY—William J. Armstrong, Robert S. Lucas, Butler.

CAMBRIA COUNTY MEDICAL SOCIETY—E. Pope Dickinson, St. Michael; Mary M. Miller, Portage; Wilfred H. Winey, George F. Wright, Johnstown.

CENTRE COUNTY MEDICAL SOCIETY—Paul M. Corman, Bellefonte; Peter H. Dale, Grover C. Glenn, State College; Richards H. Hoffman, Bellefonte.

CHESTER COUNTY MEDICAL SOCIETY—Meyer K. Amdur, Coatesville; Charles J. Brower, Spring City; Samuel J. Dickey, Harrisburg; William B. Ewing, West Grove; Louis H. Goldman, Pennhurst; Walter R. Krauss, Spring City; Michael Margolies, Coatesville; Duer Reynolds, Kennett Square; Frank B. Robinson, Oxford; Joseph Scattergood, Sr., Joseph Scattergood, Jr., Kenneth S. Scott, West Chester; Jacob S. Sherson, Malvern; G. B. McClellan Wilson, Jr., Spring City.

CLARION COUNTY MEDICAL SOCIETY—Clinton R. Coulter, Parkers Landing; I. Dana Kahle, Knox; Connell H. Miller, Sligo.

CLEARFIELD COUNTY MEDICAL SOCIETY—William C. Browne, Curwensville; J. Paul Frantz, James F. Smith, Maximo J. Tornatore, Gillespie B. Yeane, Clearfield.

CLINTON COUNTY MEDICAL SOCIETY—Graydon D. Mervine, Lock Haven.

COLUMBIA COUNTY MEDICAL SOCIETY—C. W. Ashley, Bloomsburg; Charles L. Johnston, Catawissa; Roland F. Wear, Berwick.

CUMBERLAND COUNTY MEDICAL SOCIETY—Newton W. Hershner, Mechanicsburg.

DAUPHIN COUNTY MEDICAL SOCIETY—Park Berkeimer, Hummelstown; Joseph E. Bogar, Millersburg; J. Moore Campbell, Ross K. Childerhose, Allen W. Cowley, John A. Daugherty, Henry R. Douglas, Jr., Hamblen C. Eaton, Carl E. Ervin, Constantine P. Faller, W. Drury Hawkins, Paul A. Keeney, John B. McAlister, Harrisburg; Ira C. Miller, Camp Hill; Hewett C. Myers, Steelton; Paul A. Petrie, Howard K. Petry, Clarence R. Phillips, Kenneth E. Quickel, William C. Sandy, Charles W. Smith, Dale C. Stahle, Harrisburg.

DELAWARE COUNTY MEDICAL SOCIETY—Charles S. Aitken, Brookline; Jesse O. Coffey, Drexel Hill; Clara L. Davis, Lansdowne; Sidney J. Diamond, Woodlyn; Ruth E. Duffy, Elwyn; Joseph F. Dunn, Chester; Albert W. Fisher, Drexel Hill; Harry B. Fuller, Lansdowne; Thomas A. Johnson, Drexel Hill; Furman T. Kepler, Walter E. Kepler, Upper Darby; Richard Owen, Harvey F. School, Prospect Park; Mary McD. Shick, Elwyn; Frank A. Skwirut, Chester; Ignatius J. Stankus, Philadelphia; H. Armin Stecher, Brookline; Edward G. Torrance, Drexel Hill; E. Arthur Whitney, Elwyn; J. William Wood, Chester.

ELK COUNTY MEDICAL SOCIETY—Robert C. Simpson, Ridgway.

ERIE COUNTY MEDICAL SOCIETY—Hugh M. Moorhead, Henry R. Steadman, George F. Stoney, Kenneth S. Treiber, Erie.

FAYETTE COUNTY MEDICAL SOCIETY—Othello S. Kough, Uniontown; Harry E. Rebok, Keisterville; John N. Snyder, Masontown.

FRANKLIN COUNTY MEDICAL SOCIETY—Frank J. Corbett, Fayetteville; John W. Croft, Waynesboro; Charles C. Custer, South Mountain.

HUNTINGDON COUNTY MEDICAL SOCIETY—Donald C. Malcolm, Alexandria.

INDIANA COUNTY MEDICAL SOCIETY—Alexander H. Stewart, Harrisburg.

JEFFERSON COUNTY MEDICAL SOCIETY—S. Meigs Beyer, Punxsutawney; William A. Hill, Reynoldsville; Raymond F. O'Connor, DuBois.

JUNIATA COUNTY MEDICAL SOCIETY—Robert P. Banks, Mifflintown.

LACKAWANNA COUNTY MEDICAL SOCIETY—Stanley W. Boland, Archbald; John J. Brennan, Aaron S. Cantor, William M. Donovan, Milton J. Goldstein, James D. Lewis, Patrick J. McDonnell, John E. Manley, Scranton; William H. Newman, William H. Newman, Jr., Clarks Summit; Paul F. Polentz, Homer H. Snyder, Scranton; John M. Wagner, Clarks Summit.

LANCASTER COUNTY MEDICAL SOCIETY—Walter K. Baer, Lancaster; Charles S. Duttonhofer, Churchtown; John H. Esbenshade, Marvin C. Goodman, James S. Hammers, Samuel M. Hauck, Lancaster; John T. Herr, Landisville; Charles G. Hill, Columbia; Horace C. Kinzer, Roland N. Klemmer, Lancaster; John F. Mentzer, Ephrata; Harvey H. Seiple, John S. Simons, Murray K. Spillman, C. Howard Witmer, Lancaster; Mahlon H. Yoder, Lititz; Harry S. Ziemer, Adamstown.

LAWRENCE COUNTY MEDICAL SOCIETY—Mary J. Baker, New Castle; Elizabeth M. McLaughrey, New Wilmington.

LEBANON COUNTY MEDICAL SOCIETY—Warren I. Brubaker, Annville; Irwin S. Lape, Lebanon.

LEHIGH COUNTY MEDICAL SOCIETY—Martin J. Backenstoe, Emmaus; William J. Fetherolf, Steinsville; Cornelius A. Gallagher, Allentown; George W. Heintzelman, Neffs; Frederick G. Helwig, William F. Herbst, Clyde H. Kelchner, Willard D. Kline, George F. Seiberling, Paul C. Shoemaker, Lloyd A. Stahl, Max B. Walkow, Pauline K. Wenner, Allentown.

LUZERNE COUNTY MEDICAL SOCIETY—Edward W. Bixby, Wilkes-Barre; Joseph F. Dreier, Dushore; John M. Dyson, Hazleton; Julian S. Long, Angelo L. Luchi, Wilkes-Barre; George J. Silewski, Nanticoke.

LYCOMING COUNTY MEDICAL SOCIETY—Louis E. Audet, Walter S. Brenholtz, Williamsport; William Devitt, Allenwood; George B. Faries, Lewisburg; Herman Finkelstein, Stuart B. Gibson, Williamsport; Frederic C. Lechner, Montoursville; John L. Mansuy, Ralston; George W. Muffy, Turbotville; Francis H. Paternostro, Williamsport; Amos V. Persing, Jr., Allenwood; Wilbur E. Turner, Montgomery.

McKEAN COUNTY MEDICAL SOCIETY—Robert D. Donaldson, Kane.

MERCER COUNTY MEDICAL SOCIETY—Patrick E. Biggins, Sharpsville; William B. Campbell, Harrisville; William W. Richardson, Mercer.

MIFFLIN COUNTY MEDICAL SOCIETY—Joseph S. Brown, Milton H. Cohen, Lewistown; Percy E. Whiffen, McClure.

MONROE COUNTY MEDICAL SOCIETY—Hugh L. Bowman, Stroudsburg; Charles A. LeCates, Tannersville; Marshall R. Metzgar, Stroudsburg.

MONTGOMERY COUNTY MEDICAL SOCIETY—Warren Z. Anders, Collegeville; Clifford H. Arnold, Ardmore; Teofil Babacz, Phoenixville; Faith H. Bayer, George A. Bayer, Pennsburg; Edgar S. Buyers, Norristown; Emanuel Chat, Glenside; Joseph H. Cloud, Lovett Dewees, Ardmore; Ralph M. Donaldson, North Hills; J. Lawrence Eisenberg, Remo Fabbri, Albert Rowland Garner, Norristown; M. Louise C. Gloeckner, Conshohocken; Ellen R. Haines, Fort Washington; Howard W. Hassell, Bridgeport; Theodore A. Henderson, Ambler; Benjamin F. Hubley, J. Newton Hunsberger, Norristown; Edgar W. Kline, Lansdale; Philip J. Lukens, Ambler; Arthur P. Noyes, Norristown; John D. Perkins, Jr., Conshohocken; Elmer Raymond Place, Skippack; Harry C. Podall, Norristown; John B. Polansky, Glenside; Elwood T. Quinn, Jenkintown; Charles T. Ricker, Cheltenham; Allen N. Rogers, Norristown; James A. Shelly, Ambler; Walter J. Stein, Ardmore; Calvin L. Stewart, Abington; J. Quincy Thomas, H. Ernest Tompkins, Norristown; Harold R. Warner, Kulpsville.

MONTOUR COUNTY MEDICAL SOCIETY—Joseph A. Cammarata, Dorothy Johnston, Benjamin Schneider, Wendell J. Stainsby, Danville; Anna O. Stephens, Laurelton.

NORTHAMPTON COUNTY MEDICAL SOCIETY—Charles E. Beck, Portland; Walter M. Brenholtz, Edward J. Deibert, Hellertown; Robert H. Dreher, Wind Gap; Luther I. Fisher, Bethlehem; Arthur S. Fox, John E. Fretz, Easton; Emanuel B. Hudock, Upper Black

Eddy; Clarence D. Hummel, Easton; Thomas B. Kern, Bethlehem; Victor S. Messinger, Frederick C. Roberts, Easton; Thomas H. A. Stites, Cresson; W. Gilbert Tillman, Easton.

NORTHUMBERLAND COUNTY MEDICAL SOCIETY—William J. Harris, Shamokin; William J. Jacoby, Peter A. Justin, E. Roger Samuel, Mt. Carmel; Henry T. Simmonds, Shamokin; Isadore E. Smigelsky, Mt. Carmel.

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MINUTES OF THE SECTION ON SURGERY

Tuesday, Oct. 1, 1940

The first meeting of the Section on Surgery was called to order at 1:50 p.m. by the chairman, Joseph P. Rieggle, of Johnstown, who announced that, because of the large number of papers on the program, there would be no time for open discussion of papers read and that therefore only the prepared discussions would be heard.

The following papers were read and discussed:

"Pentothal Sodium Oxygen Anesthesia in General Surgery" (lantern demonstration), by George W. Hawk, Sayre. Discussed by Henry S. Ruth, Philadelphia.

"The Present Status of Cyclopropane" (lantern demonstration), by Ivan B. Taylor, Philadelphia. Discussed by Frederick P. Haugen, Philadelphia.

"Continuous Spinal Anesthesia" (lantern demonstration and motion pictures), by William T. Lemmon and George W. Paschal, Jr. (by invitation), Philadelphia. Discussed by Henry S. Ruth, Philadelphia.

"Neuralgias of the Face and Head; Their Diagnosis and Treatment" (lantern demonstration), by Temple S. Fay, Philadelphia. Discussed by Fritz H. Lewy, Philadelphia.

"The Treatment of Trigeminal Neuralgia" (lantern demonstration), by Stuart N. Rowe, Pittsburgh. Discussed by Fritz H. Lewy, Philadelphia.

"The Management of Patients with Intractable Pain, with Special Reference to Alcoholic Injections" (lantern demonstration), by Robert A. Groff, Philadelphia. Discussed by Stuart N. Rowe, Pittsburgh.

"Compression Fracture of the Spine" (lantern demonstration and colored motion pictures), by Tom Outland, Elizabethtown. Discussed by John Paul North, Philadelphia.

"The Management of Shock and Toxemia in Severe Burns" (lantern demonstration), by Walter E. Lee,

Joseph Russell Elkinton (by invitation), and William A. Wolff (by invitation), Philadelphia. Presented by Dr. Lee and discussed by Jonathan E. Rhoads, Philadelphia. "Total Pneumonectomy" (lantern demonstration), by Albert Behrend, Philadelphia. Discussed by Julian Johnson, Philadelphia.

"Bronchoscopy in the Treatment of Postoperative Atelectasis" (lantern demonstration), by William A. Lell, Philadelphia. Discussed by Richard H. Meade, Jr., Philadelphia.

The session adjourned at 5:50 p.m.

Wednesday, Oct. 2, 1940

The second session of the Section on Surgery was called to order at 1:45 p.m. by the chairman. The scientific program continued as follows:

"Acute Diverticulitis of the Colon" (lantern demonstration), by Adolph A. Walking, Philadelphia. Discussed by Enoch H. Adams, Bellefonte.

"Perforation in Carcinoma of the Colon" (lantern demonstration), by William L. Estes, Jr., Bethlehem. Discussed by Damon B. Pfeiffer, Philadelphia.

"The Diagnosis and Management of the Most Frequent Subacute Perforations of the Abdominal Viscera" (lantern demonstration), by John O. Bower, Philadelphia. Discussed by Harvey F. Smith, Harrisburg.

"The Management of Hyperthyroidism Complicated by Other Conditions" (lantern demonstration and colored motion pictures), by Richard B. Cattell, Boston, Mass. (guest). Discussed by Harold L. Foss, Danville.

The chairman made the following announcement: At its regular meeting on Dec. 5, 1939, the Board of Trustees of the State Medical Society took action requesting the Scientific Work Committee to consider the advisability of reducing to a maximum of 2 sessions the number of programs for any scientific session, at the same time expanding to 3 sessions the programs of the General Meetings, and requested this section to take advisory action.

In order to obtain a consensus of opinion, a vote was taken and it was almost unanimously advised to maintain the status quo; that is, to have as at present 3 sessions of the Section on Surgery.

The chairman then read the report of the Executive Committee, and announced the election of new section officers, as follows: Chairman, Edwin P. Buchanan, Pittsburgh; secretary, Joseph D. Finley, Altoona.

"Disruption of Abdominal Wounds" (lantern demonstration), by Hubley R. Owen and Bernardine M. Mahowald (by invitation), Philadelphia. This paper was presented by Dr. Owen and discussed by William H. Erb, Philadelphia.

"Acute Appendicitis" (lantern demonstration), by Lyndon H. Landon, Pittsburgh. Discussed by John P. Griffith, Pittsburgh.

"Acute Regional Enteritis" (lantern demonstration), by Richard H. Meade, Jr., Philadelphia. Discussed by Eldridge L. Eliason, Philadelphia.

Adjournment at 5:15 p.m.

Thursday, Oct. 3, 1940

The third session of the Section on Surgery was called to order at 1:30 p.m. by the chairman.

Papers were read and discussed as follows:

"Painful Shoulder; Diagnosis and Treatment" (lantern demonstration), by Louis Kaplan, Philadelphia. Discussed by William Bates, Philadelphia.

"Restoration of Function After Fracture of the Hu-

merus" (lantern demonstration), by John Paul North, Philadelphia. Discussed by Robert R. Impink, Reading.

"Conservative Therapy in the Treatment of Diabetic Gangrene" (lantern demonstration), by William H. Erb, Philadelphia. Discussed by Eldridge L. Eliason, Philadelphia.

"Problems Associated with Surgery of the Biliary Tract" (lantern demonstration), by Howard K. Gray, Rochester, Minn. (guest). No discussion.

"Acute Cholecystitis: Summary of the Results in the Past 10 Years with Comparison and Discussion of Results by Immediate, Early, and Late Operation" (lantern demonstration), by John L. Atlee, Jr., Lancaster. Discussed by J. Montgomery Deaver, Philadelphia.

"Active Immunization Against Tetanus by the Combined Subcutaneous and Intranasal Routes" (lantern demonstration), by Herman Gold, Chester. Discussed by John H. Gibbon, Jr., Philadelphia.

"Experience with 6000 Blood Transfusions from the Blood Bank of the Philadelphia General Hospital" (lantern demonstration and motion pictures), by Ignatius S. Hneleski (by invitation), Philadelphia. Discussed by William P. Belk, Philadelphia.

"Secondary Exophthalmic Goiter" (lantern demonstration), by J. Everett McClenahan, Pittsburgh. Discussed by John P. Griffith, Pittsburgh.

The session finally adjourned at 5:20 p. m.

JOSEPH P. REPLOGLE, *Chairman*,
LEWIS KRAEER FERGUSON, *Secretary*.

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NORTHUMBERLAND COUNTY MEDICAL SOCIETY—Joseph C. Bullamonte, Shamokin; George A. Deitrick, Sunbury; George M. Simmonds, Shamokin.

* PHILADELPHIA COUNTY MEDICAL SOCIETY—Max Abramovitz, G. Mason Astley, M. Royden Astley, W. Wayne Babcock, Harvey Bartle, William Bates, Edward W. Beach, Albert Behrend, Bernard Behrend, Moses Behrend, Basil R. Beltran, Dorothy Case Blechschmidt, Frank B. Block, Charles W. Bonney, Francis F. Borzell, Frank E. Boston, Frederick A. Bothe, John O. Bower, Howard H. Bradshaw, John W. Bransfield, Maxwell B. Brenner, John A. Brooke, John R. Brophy, Henry P. Brown, Jr., Herman Brown, Joseph D. Brown, William R. Brown, Jr., Saverio F. Brunetti, Alfred E. Brunswick, Verne G. Burden, Alexander E. Burke, William C. Cantey, Harry Cantor, Benjamin H. Chandlee, Richard J. Chodoff, John B. Claffey, James N. Coombs, Edward T. Crossan, Lawrence Curtis, Joshua M. Deaver, Ambrose DeCuzzi, Everett H. Dickinson, George M. Dorrance, Thomas L. Doyle, John J. Duncan, Sherman A. Eger, John W. Egovalle, Eldridge L. Eliason, William T. Ellis, Walter G. Elmer, John P. Emich, Gilson Colby Engel, William H. Erb,

Jack I. Feinman, Lewis K. Ferguson, Worth B. Forman, William D. Frazier, Leonard D. Frescoln, Morris L. Fuchs, Donald C. Geist, John H. Gibbon, Jr., S. Byron Goldsmith, Jacob Seymour Gordon, Samuel Norman Grahn, Harry H. Greenberg, Robert A. Groff, John H. Gunter, John G. Hand, Ruth F. Harral, Lerleen C. Hatch, Frederick P. Haugen, Herbert R. Hawthorne, Leo V. Hayes, John Henderson, Lester H. Hergesheimer, Harry Z. Hibshman, Frederick M. Hopkins, Thomas Horwitz, John C. Howell, George I. Israel, Robert H. Ivy, Thomas Jackson, Jr., Julian Johnson, Louis Kaplan, Arthur P. Keegan, Joseph O. Keezel, James A. Kelly, Daniel J. Kennedy, Simon Kimmelman, Orville C. King, John W. Klopp, Maxwell B. Kremens, John Leedom, Harold Lefkoe, James A. Lehman, Thomas J. Lechner, William T. Lemmon, J. Walter Levering, Rubin M. Lewis, Hesser C. C. Lindig, Victor A. Loeb, Ralph W. Lorry, Paul E. Loudenslager, Albert A. Lucine, John F. McCloskey, Francis T. McGinniss, Edward F. McLaughlin, Herbert P. MacNeal, Lewis C. Manges, Jr., Francis A. Mantz, Albert G. Martin, Collier F. Martin, Harvey C. Masland, James B. Mason, Hans May, Richard H. Meade, Jr., William C. Minnich, Charles F. Mitchell, Francesco Mogavero, C. Howard Moore, Alma D. Morani, George D. Morton, George P. Muller, Eugene C. Murphy, John Paul North, Wilbur W. Oaks, Hubley R. Owen, Edward W. Pangburn, Frank W. Paradowski, Alan P. Parker, Francis D. Patterson, John G. Penza, Damon B. Pfeiffer, Valentine F. Pytko, Herbert S. Raines, Isidor S. Ravdin, John L. Reeves, Jonathan E. Rhoads, George J. Rilling, Hugh Robertson, J. Stewart Rodman, Peter W. Romanow, Norman S. Rothschild, Samuel L. Rubinsohn, J. Torrance Rugh, Charles T. Russell, Jr.; Henry S. Ruth, Merion; William John Ryan, Eli R. Saleeby, Harry A. Salzmann, Leo F. Scanlan, Charles S. Shafer, James F. Schell, William H. Schmidt, Henry C. Schneider, Harvey E. Schock, James D. Schofield, Morris Segal, Thomas A. Shallow, William C. Sheehan, Clarence D. Smith, J. Winslow Smith, Calvin M. Smyth, Jr., Louis Spitz, Samuel Dale Spotts, Frances R. Sprague, Henry A. Stees, Frederick D. Stubbs, James M. Surver, William B. Swartley, William M. Sylvis, Ivan B. Taylor, T. Turner Thomas, Wesley D. Thompson, Joseph J. Toland, Jr., William J. Tourish, John P. Turner, Leopold Vaccaro, Edward P. Van Tine, Frank N. Volk, Adolph A. Walking, Hoke Wammock, Stephen D. Weeder, Maxwell F. White, DeForest P. Willard, George Willauer, Maurice J. Winston, Leo J. Wojczynski, Michael M. Wolfe, Francis L. Zaborowski, Samuel Carl Zibelman.

SCHUYLKILL COUNTY MEDICAL SOCIETY—Lyman D. Heim, Schuylkill Haven; Charles V. Hogan, Pottsville; William T. Leach, Shenandoah; Edgar E. Shif-ferstine, Tamaqua; Raymond H. Stutzman, Tower City.

TIOGA COUNTY MEDICAL SOCIETY—Lloyd G. Cole, Blossburg; Harry B. Knapp, Wellsboro.

VENANGO COUNTY MEDICAL SOCIETY—Donovan C. Blanchard, Franklin; Ford M. Summerville, Oil City.

WASHINGTON COUNTY MEDICAL SOCIETY—James H. Corwin, Albert E. Thompson, Washington; Philip F. Vaccaro, Monongahela.

WESTMORELAND COUNTY MEDICAL SOCIETY—Charles C. Crouse, Greensburg.

YORK COUNTY MEDICAL SOCIETY—W. Frank Gemmill, James P. Paul, York.

* Where no address is given, Philadelphia is indicated.

MINUTES OF THE SECTION ON EYE, EAR, NOSE, AND THROAT DISEASES

Tuesday, Oct. 1, 1940

The meeting was called to order at 2 p.m. by the chairman, Louis H. Clerf, of Philadelphia.

Adolph Krebs, Pittsburgh, read a paper on "Calcium Therapy in Eye Diseases." Discussed by David H. Shaffer, Pittsburgh.

John B. Corser, Scranton, read a paper on "Recurring Marginal Ulcerative Keratitis." Discussed by Hunter H. Turner, Pittsburgh, Leonard G. Redding, Scranton, and Dr. Corser (in closing).

William T. Hunt, Jr., Huntingdon, read a paper on "An Analysis of Certain Visual Problems in Elementary School Children." Discussed by Jay G. Linn, Pittsburgh; Edward Jackson, Denver, Colo.; S. Weir Newmayer, Philadelphia; and Dr. Hunt (in closing).

Carroll R. Mullen, Philadelphia, read a paper on "Three Years' Clinical Experience in the Treatment of Gonorrheal Diseases of the Eye with Sulfanilamide." Discussed by Charles R. Heed, Philadelphia, and Alfred Cowan, Philadelphia.

Albert D. Ruedemann, Cleveland, Ohio, guest speaker, gave an address on "Headaches and Head Pain of Ocular Origin." No discussion.

M. Luther Kauffman, Jenkintown, read a paper on "Observations on Eyegrounds of the Newborn. A Study of Approximately 3000 Cases." No discussion.

Isaac S. Tassman, Philadelphia, read a paper on "The Clinical Uses of Paredrine Hydrobromide in the Eye." Discussed by Sidney L. Olsho, Philadelphia.

John M. West, Allentown, read a paper on "Advantages of the Intranasal Tear Sac Operation." Discussed by William J. Hertz, Allentown.

Francis H. Adler, Philadelphia, read a paper on "The Medical Treatment of Glaucoma." Discussed by Walter I. Lillie, Philadelphia.

The session adjourned at 5:30 p.m.

Wednesday, Oct. 2, 1940

The meeting was called to order at 2:05 p.m. by the chairman.

Warren S. Reese, Philadelphia, chairman of the Executive Committee, announced the following elections for the coming year: Chairman, John B. McMurray, Washington; secretary, Edmund B. Spaeth, Philadelphia.

George B. Jobson, Oil City, read a paper on "Spontaneous Cerebrospinal Rhinorrhea." Discussed by Francis C. Grant, Philadelphia.

Joseph W. Hampsey, Pittsburgh, read a paper on "Sulfanilamide in Otolaryngology." Discussed by Thomas L. McCullough, Pittsburgh.

Horace J. Williams, Philadelphia, read a paper on "Acute Otitis Media and Mastoiditis in Children." Discussed by George M. Coates, Philadelphia.

Joseph V. Connole, Wilkes-Barre, read a paper on "Vaccine Treatment of Facial Paralysis." Discussed by Frank C. Parker, Norristown.

Francis W. White, New York City, guest speaker, read a paper on "Complications Incident to Paranasal Sinusitis." No discussion.

George L. Whelan, Philadelphia, read a paper on "Observations on the Larynx in Diseases of the Upper and Lower Respiratory Tract." Discussed by Gabriel Tucker, Philadelphia.

Matthew S. Ersner, Philadelphia, read a paper on "Roentgen-Ray Therapy for Benign Otorhinologic

Conditions." Discussed by Robert K. Arbuckle, Philadelphia.

James A. Babbitt and Louis E. Silcox, Philadelphia, read a paper on "The Present Interpretation of Ootosclerosis and Its Practical Relations." Discussed by Kenneth M. Day, Pittsburgh.

The session adjourned at 4:50 p.m.

LOUIS H. CLERF, *Chairman*,

JOHN B. McMURRAY, *Secretary*.

Members Registered in Section on Eye, Ear, Nose, and Throat Diseases (374)

ALLEGHENY COUNTY MEDICAL SOCIETY—Simon Berenfield, Pittsburgh; Joseph L. Conrad, McKeesport; Kenneth M. Day, Alexander R. Hampsey, Joseph W. Hampsey, Adolph Krebs, Jay G. Linn, Thomas B. McCullough, Carlisle E. McKee, Pittsburgh; Harold S. D. Mock, Cheswick; Albert G. Prokop, Clairton; David H. Shaffer, Hunter H. Turner, Pittsburgh; Theodore C. Zeller, McKeesport.

BERKS COUNTY MEDICAL SOCIETY—Claude W. Bankes, Thomas Butterworth, Harry B. Corrigan, Paul C. Craig, James E. Landis, Michael Penta, Harold L. Strause, F. Lee Terry, Reading.

BLAIR COUNTY MEDICAL SOCIETY—William R. Brewer, Altoona.

BRADFORD COUNTY MEDICAL SOCIETY—Henry D. Rentschler, Sayre; Nelson S. Weinberger, Sayre.

BUCKS COUNTY MEDICAL SOCIETY—Herbert T. Crough, Doylestown; John A. Weierbach, Quakertown.

CAMBRIA COUNTY MEDICAL SOCIETY—Herman G. Difenderfer, Beaverdale; Lycurgus M. Gurley, Jr., Paul T. Meyers, Johnstown; Edwin C. Miller, Portage.

CARBON COUNTY MEDICAL SOCIETY—Clinton J. Kistler, Lehigh; John H. Kupp, Palmerton.

CENTRE COUNTY MEDICAL SOCIETY—John V. Foster, State College.

CHESTER COUNTY MEDICAL SOCIETY—Thomas G. Aiken, Berwyn.

CLEARFIELD COUNTY MEDICAL SOCIETY—Harry G. Shaffer, Clearfield.

DAUPHIN COUNTY MEDICAL SOCIETY—Clarence C. Bobb, Lykens; Joseph W. Shaffer, Harrisburg.

DELAWARE COUNTY MEDICAL SOCIETY—Edward H. Bedrossian, Drexel Hill; Irvin B. Berd, Arden, Del.; Aaron L. Bishop, Drexel Hill; George H. Cross, Chester; Joseph W. Hallett, Yeadon; Duncan S. Hatton, Merrill B. Hayes, Chester; Edward F. Hemminger, Upper Darby; Joseph S. Lynch, Chester; Henry A. Miller, Lansdowne; Adrian V. B. Orr, Edward Schwartz, Chester; Charles S. Sentner, Morton; C. Irvin Stiteler, Amy E. White, Chester.

ERIE COUNTY MEDICAL SOCIETY—James H. Delaney, Erie.

FRANKLIN COUNTY MEDICAL SOCIETY—Charles S. McConnell, Waynesboro.

HUNTINGDON COUNTY MEDICAL SOCIETY—H. Ford Clark, William T. Hunt, Jr., Huntingdon.

JEFFERSON COUNTY MEDICAL SOCIETY—Paul E. Noonan, Brockway.

LACKAWANNA COUNTY MEDICAL SOCIETY—Frederick J. Bishop, John B. Corser, John P. Donahoe, Harry Goodfriend, Scranton; Chauncey D. Miller, Carbon-dale; Leonard G. Redding, Elmer B. Shaul, Scranton.

LANCASTER COUNTY MEDICAL SOCIETY—Roy Deck, Harry C. Fulton, William B. Hamaker, Tobias C. Shookers, Samuel S. Simons, Lancaster.

LEBANON COUNTY MEDICAL SOCIETY—Robert M. Wolff, Lebanon.

LEHIGH COUNTY MEDICAL SOCIETY—William J. Hertz, Allentown; Robert R. Muschlitz, Slatington; S. Mann Uhler, John M. West, Allentown.

LUZERNE COUNTY MEDICAL SOCIETY—Stanley W. Blazejewski, Lewis T. Buckman, Samuel T. Buckman, Joseph V. Connole, Wilkes-Barre; William V. Coyle, Hazleton; John J. Dailey, McAdoo; Fayette C. Eshelman, Hazleton; Thomas R. Gagon, Pittston; Charles J. Kistler, Kingston; Oliver F. Kistler, Wilson C. Marsden, Wilkes-Barre; Charles E. Nicholson, Pittston; John E. Scheifly, Kingston; William W. Waters, Nanticoke.

LYCOMING COUNTY MEDICAL SOCIETY—William D. Angle, Robert C. Bastian, Philip H. Decker, Williamsport.

McKEAN COUNTY MEDICAL SOCIETY—Francis S. Bodine, Kane.

MERCER COUNTY MEDICAL SOCIETY—Burton A. Black, Grove City; Edith MacBride-Dexter, Sharon.

MIFFLIN COUNTY MEDICAL SOCIETY—James G. Koshland, Lewistown.

MONROE COUNTY MEDICAL SOCIETY—Thomas I. Metzgar, Stroudsburg.

MONTGOMERY COUNTY MEDICAL SOCIETY—Joseph E. Beideman, Norristown; Ernest H. Dengler, Cecil W. Hancox, Pottstown; George L. Hoffman, Sr., Norristown; Walter Hughson, Abington; M. Luther Kauffman, Jenkintown; H. Pearce Lakin, North Wales; Frank C. Parker, Norristown.

NORTHAMPTON COUNTY MEDICAL SOCIETY—Francis J. Conahan, Bethlehem; Clifton C. Daigle, Easton; Jacob Z. Heberling, Bangor; James E. James, Richard W. Morgan, Bethlehem.

PERRY COUNTY MEDICAL SOCIETY—J. Edward Book, Newport.

*PHILADELPHIA COUNTY MEDICAL SOCIETY—Maurice Abramson, I. Richard Adelizzi, Francis H. Adler, J. Wesley Anders, William H. Annesley, Leighton F. Appleman, Ann C. Arthurs; Joseph P. Atkins, Lansdowne; James A. Babbitt, Louis Baer, Simon Ball, Aaron Barlow, William H. Barnes, George E. Berner, J. Allan Bertolet, Catharine Birch, John V. Blady, Solomon S. Brav, Russell J. Brennan, Sacks Bricker, Charles R. Bridgett, Nelson M. Brinkerhoff, Seth A. Brumm, Mary Buchanan, Louis J. Burns, Ralph Butler, Miriam M. Butt, Edward H. Campbell, Walter L. Cariss, Chapin Carpenter, Burton Chance, William H. Chandlee, Louis H. Clerf, George M. Coates, Herman B. Cohen, Louis B. Cohen, Samuel Cohen, John A. Colgan, Pauline Coonel; Chalmers E. Cornelius, Jenkintown; Alfred Cowan, Thomas H. Cowan, Richard J. Coyne, Joseph R. Criswell, Joseph F. Cunningham, John R. Davies, Jr., T. Carroll Davis, Warren

B. Davis, Alexander P. Deak, L. Waller Deichler, Charles Q. DeLuca, George H. Denney, Robert L. Dickson, Arthur Dintenfass, Henry Dintenfass, Joseph C. Donnelly, Robert T. M. Donnelly, George J. Dublin, Louis S. Dunn, Louis K. Elfman, Joseph M. Endres, Matthew S. Ersner, Harry G. Esken, Morris S. Etten-ger; George T. Faris, Glenside; William N. Ferguson, Jr., Alexander G. Fewell; John K. Finley, Haddonfield, N. J.; Charles Fischer, C. Calvin Fox, Clarence P. Franklin, Charles J. Fries, Jr., J. Scott Fritch, John W. Froggatt, Morris Gallen, Bernard C. Gettes, Glenn G. Gibson, Edward S. Gifford, Edward S. Gifford, Jr., Anthony A. S. Giordano, Herbert M. Goddard, Joseph I. Gouterman, Henry L. Gowens, Jr., Francis C. Grant, Charles H. Grimes, J. Milton Griscom, Martin F. Guckavan; Herbert P. Harkins, Bryn Mawr; William Hartz, Erle G. Hawman, Marion Hearn, Howard M. Hebble, William F. Hebsacker, Charles R. Heed, J. Frederick Herbert, Harry Herman, Maxwell Her-man, William Hewson, Otto C. Hirst, William J. Hitschler, Dewey G. Horine, William V. Hosteley, Carl T. Houlihan, Benjamin House, Karl M. Houser, Laura Emma Hunt, Robert J. Hunter, David N. Husik, Chevalier L. Jackson, George E. Johnson, Charles J. Jones, Ervant Kapeghian, Isador Kaplan, Joseph E. Kaplan, Nubar A. Karakashian, James H. Kates, Harry K. Katz, A. Spencer Kaufman, George F. J. Kelly, Alexander I. Kernish, Andrew Knox, Henry J. Kohler, Moses Kopeika, Frederick Krauss, Frederick Harold Krauss, William E. Krewson, III, Ralph C. Lanciano, H. Maxwell Langdon, Daniel J. Langton, O. Luther Latchford, Granville A. Lawrence, Louis Lehrfeld, William A. Leil, Nathaniel M. Levin, George E. Lieberman, Walter I. Lillie, Samuel S. Lipschutz, Edward I. Lipsius, John Edward Loftus; Edwin P. Longaker, Ardmore; Robert M. Lukens, Romeo A. Luongo, I. Walter Lytle, Hugh B. McCauley, John D. McElwee, Douglas Macfarlan, William H. G. MacKay, George W. Mackenzie, Benjamin H. Mann, Abraham B. Mapow, Linnaeus E. Marter, Lewis Merklin, Oliver F. Mershon, Edwin B. Miller, M. Valentine Miller, Stephen Mitterling; George H. Moore, Upper Darby; Ronald C. Moore, Carroll R. Mullen, Frank A. Murphy, David Myers, Israel Myers, David Naidoff, S. Weir Newmayer, Walter S. Nied, Joseph L. Nocentini, Sidney L. Olsho, Darius G. Ornston, Charles W. Ostrum, Charles S. Pancoast, Herman M. Parris, Abram H. Persky, Luther C. Peter, Thomas W. Phillips, Thomas H. Price, Charles A. Pryor, Burech Rachlis, Warren S. Reese, Rebecca M. Rhoads, Robert F. Ridpath, William P. Robinson, John C. Rommel, Joseph M. Rosenthal, Jay Besson Rudolphy, Irving A. Rush, Franklin L. Rutberg, Maurice Saltzman, Paul J. Sartin, Robert R. Saunders, Albert C. Sautter, Joseph A. Scarano, J. Parsons Schaeffer, Harold G. Scheie, Joseph Schenberg, Harry P. Schenck, Harry Schluederberg, Isidor J. Scovis, Joseph D. Seiberling, William K. Seibert, Victor I. Seidel, George J. V. Selsman, Albert P. Seltzer, Benjamin P. Seltzer, George E. Shaffer, Nathaniel G. Shafritz, Charles E. G. Shannon, William T. Shoemaker, Edward A. Shumway, Benjamin H. Shuster, Louis E. Silcox, James J. Simkins, Joseph G. Sirken, Samuel R. Skillern, Jr., Henry O. Sloane, Austin T. Smith, Morris Smith, David H. Solo, Edmund B. Spaeth, Marshall B. Sponsler, Carl Stamm, Charles M. Stiles, Warren Stirling, Eunice L. Stockwell, Louis D. Sulman, William S. Sutherland, Charles J. Swalm, Isaac S. Tassman, J. Monroe Thorington; Edwin C. Town, Narberth; Charles E. Towson, Robert

* Where no address is given, Philadelphia is indicated.

H. Trueman, Gabriel Tucker, Arthur J. Wagers, Joseph Waldman, Robert Watt, Harry S. Weaver, Jr., Morris A. Weinstein, Sidney Weiss, Abel E. West, George L. Whelan, William F. Whelan, Horace J. Williams, Rachel R. Williams, Lewis R. Wolf, Homer F. Wonders, George B. Wood, Arthur Wrigley, Morris L. Yubas, Myron A. Zacks, William Zentmayer, Louis H. Weiner.

SCHUYLKILL COUNTY MEDICAL SOCIETY—Sterling F. Mengel, Pottsville; James J. Monahan, Shenandoah; T. Lamar Williams, Mt. Carmel.

SOMERSET COUNTY MEDICAL SOCIETY—Robert J. Hefley, Berlin; J. Ross Hemminger, Somerset.

VENANGO COUNTY MEDICAL SOCIETY—Joseph Aaronoff, Oil City; George B. Jobson, Franklin.

WASHINGTON COUNTY MEDICAL SOCIETY—James A. Gormley, Clarence J. McCullough, John B. McMurray, Washington.

WESTMORELAND COUNTY MEDICAL SOCIETY—Homer R. Mather, Latrobe.

WYOMING COUNTY MEDICAL SOCIETY—Lorne T. MacDougall, Tunkhannock.

YORK COUNTY MEDICAL SOCIETY—Charles L. Fackler, York.

MINUTES OF THE SECTION ON PEDIATRICS

Tuesday, Oct. 1, 1940

The meeting was called to order at 2 p.m. by the chairman, Ralph M. Tyson, Philadelphia.

James J. Waygood, Philadelphia, read a paper on "The Pediatric Approach in Prevention of Behavior Problems."

Thomas C. Kelly, Philadelphia, read a paper on "Thrombocytopenic Purpura (Case Presentation)." Discussed by Israel Binder and Harry Lowenburg, Sr., Philadelphia, and Dr. Kelly (in closing).

James E. Bowman, Philadelphia, read a paper on "Eosinophilic Leukemia (Case Presentation)." Discussed by Samuel Goldberg, Philadelphia, and Dr. Bowman (in closing).

Edward A. Mullen, Philadelphia, read a paper on "Subcutaneous Urography." Discussed by Benjamin Diserod, Philadelphia; Dr. Mullen; John D. Sturgeon, Jr., Uniontown; William H. Crawford, Upper Darby; and Ralph M. Tyson, Philadelphia.

Charles R. Barr, Philadelphia, read a paper on "Survey of 6 Fatal Cases of Influenza Meningitis."

Joseph N. Grossman, Philadelphia, read a paper on "Tension Pneumothorax (Case)." Discussed by Benjamin Diserod and Harry E. Knox, Philadelphia, and Dr. Grossman (in closing).

Harold Krauss, Philadelphia, read a paper on "Frontal Lobe Abscess of Otitic Origin." Discussed by Alfred Hand, Philadelphia.

Harry E. Knox, Philadelphia, presented a paper on "The Surgical Abdomen in Children." Discussed by Henry T. Price, Pittsburgh, Harry Lowenburg, Sr., Philadelphia, and Dr. Knox (in closing).

John D. Paul, Philadelphia, presented a paper on "Heredity and Diabetes."

Jean Crump, Philadelphia, presented a paper on

"Treatment of Refractory Cases of Eczema." Discussed by Robert S. Heffner, Pottstown.

Melville A. Goldsmith, Jenkintown, presented a paper on "Several Interesting Pathologic Hearts."

Wednesday, Oct. 2, 1940

The meeting was called to order at 2:15 p.m. by the chairman.

Ralph M. Tyson, Philadelphia, read the Chairman's Address.

The report of the Executive Committee was given and the following officers were elected for the ensuing year: Chairman, John D. Sturgeon, Jr., Uniontown; secretary, Elwood W. Stitzel, Altoona.

Paul Dodds read a paper on "The Maternal and Child Health Program of the Department of Health." Discussed by John J. Shaw, Secretary of Health of Pennsylvania.

Samuel Goldberg, Philadelphia, read a paper on "The Adolescent Child and His Close Relationship to Pediatrics." Discussed by Waldo Nelson, Philadelphia.

Borden S. Veeder, St. Louis, Mo., guest speaker, read a paper on "The Position of Pediatrics in the Present-Day Practice of Medicine."

Joseph A. Ritter, Philadelphia, read a paper on "Fractional Gastric Analysis in the Newborn." Discussed by Joseph A. Gilmartin, Pittsburgh, and Dr. Ritter (in closing).

John J. McAleese, Pittsburgh, read a paper on "Zinc Oxide Oil of Clove Paste in Treating Osteomyelitis." Discussed by Howard A. Johnson, Uniontown, and Dr. McAleese (in closing).

Francis T. O'Donnell, Wilkes-Barre, read a paper on "The Functions and Accomplishments of Your Child Health Committee."

Alexander Silverstein, Philadelphia, read a paper on "Various Organic Nervous Disorders Erroneously Diagnosed Anterior Poliomyelitis." Discussed by Vincent T. Curtin, Scranton.

Leonard G. Rowntree presented a paper on "Control of Gonadal Development." Discussed by Nathan H. Einhorn, Philadelphia.

Thursday, Oct. 3, 1940

The meeting was called to order at 1:30 p.m. by the chairman.

Pascal F. Lucchesi presented a paper on "The Evaluation of Biologic Products in the Treatment of Pertussis." Discussed by Percival Nicholson, Ardmore; Aims C. McGuinness, Philadelphia; and Dr. Lucchesi (in closing).

James LeRoy Foster, Pittsburgh, read a paper on "The Value of Early Diagnosis of Rheumatic Fever in Childhood."

Jacob M. Cahan, Philadelphia, read a paper on "Rheumatic Heart Disease in Families."

Rachel Ash, Philadelphia, read a paper on "Evolution of Rheumatic Heart Disease."

The papers by Drs. Foster, Cahan, and Ash were discussed by Oswald F. Hedley, Philadelphia.

Lawson Wilkins, Baltimore, guest speaker, read a paper on "Studies of Hypothyroidism and Dwarfism in Childhood."

Irving J. Wolman, Philadelphia, read a paper on "New Developments in the Adaptation of Cow's Milk for Infant Feeding." Discussed by Robert S. Heffner, Pottstown; Jacob D. Leebron and Harry Lowenburg,

Sr., Philadelphia; Percival Nicholson, Ardmore; and Dr. Wolman (in closing).

Theodore S. Wilder, Philadelphia, read a paper on "Water and Electrolyte Relations in the Body and the Use and Abuse of Sodium Chloride in Pediatric Practice." Discussed by Charles F. Elterich, Pittsburgh.

Robert T. Devereaux, West Chester, read a paper on "Pulmonary Signs and Symptoms in Acute Upper Respiratory Infection."

J. Albright Jones, Philadelphia, presented a paper on "Review of 1000 Cases of Pneumonia in Children Under 12 Years of Age." Discussed by John W. Holmes, Philadelphia, and Dr. Jones (in closing).

RALPH M. TYSON, *Chairman*,

JOHN D. STURGEON, Jr., *Secretary*.

Members Registered in Section on Pediatrics (175)

ALLEGHENY COUNTY MEDICAL SOCIETY—James LeRoy Foster, Joseph A. Gilmartin, John J. McAleese, Alfred S. McElroy, Ellsmer L. Piper, Henry T. Price, Allen C. Service, Pittsburgh.

BEAVER COUNTY MEDICAL SOCIETY—George B. Rush, Aliquippa.

BERKS COUNTY MEDICAL SOCIETY—Donald G. Moyer, Wyomissing.

BLAIR COUNTY MEDICAL SOCIETY—L. Clair Burket, Elwood W. Stitzel, Altoona.

BRADFORD COUNTY MEDICAL SOCIETY—John M. Higgins, Sayre.

BUCKS COUNTY MEDICAL SOCIETY—Mary E. Lehman, Bristol.

CARBON COUNTY MEDICAL SOCIETY—Marjorie D. Batchelor, Palmerton.

CHESTER COUNTY MEDICAL SOCIETY—Robert T. Devereux, West Chester; Julius Margolis, Coatesville; James T. Taylor, Pomeroy; George W. Truitt, Chadds Ford.

DAUPHIN COUNTY MEDICAL SOCIETY—John L. Flannery, Harrisburg; John R. Plank, Steelton.

DELAWARE COUNTY MEDICAL SOCIETY—William H. Crawford, Upper Darby; Robert E. Lee Gowan, Yeaddon; Edward J. Harshaw, Jr., Lansdowne; Joseph A. Hesch, Aldan; J. Albright Jones, Swarthmore; John B. Klopp, Joseph Lachman, Chester; Laura E. McClure, Lansdowne; Caroline Vetkoskey, Upper Darby.

ERIE COUNTY MEDICAL SOCIETY—Norbert D. Gannon, Erie.

FAYETTE COUNTY MEDICAL SOCIETY—John D. Sturgeon, Jr., Uniontown.

HUNTINGDON COUNTY MEDICAL SOCIETY—John S. Herkness, Mt. Union; Walter Orthner, Huntingdon.

JEFFERSON COUNTY MEDICAL SOCIETY—Desiderius G. Mankovich, Punxsutawney.

LACKAWANNA COUNTY MEDICAL SOCIETY—Robert F. Cooney, Mayfield; Vincent T. Curtin, Pauline K. Hellriegel, Scranton.

LANCASTER COUNTY MEDICAL SOCIETY—Gardner A. Sayres, Edward K. Smith, Lancaster; Paul H. Ulrich, Elizabethtown.

LEBANON COUNTY MEDICAL SOCIETY—J. DeWitt Kerr, Lebanon.

LEHIGH COUNTY MEDICAL SOCIETY—Alexander M. Peters, Hope T. M. Ritter, Thomas H. Weaver, Allentown.

LUZERNE COUNTY MEDICAL SOCIETY—Francis T. O'Donnell, Wilkes-Barre; John F. Osler, Hazleton.

LYCOMING COUNTY MEDICAL SOCIETY—J. Gibson Logue, Williamsport.

MONROE COUNTY MEDICAL SOCIETY—Charles S. Flagler, Stroudsburg.

MONTGOMERY COUNTY MEDICAL SOCIETY—Horst A. Agerty, Merion Station; Robert S. Heffner, Pottstown; Percival Nicholson, Ardmore; D. Stewart Polk, Rosemont; G. Bernardin Quinn, Jenkintown; Elizabeth K. Rose, Wynnewood; Hubert A. Royster, Jr., Bryn Mawr; Herbert B. Shearer, Worcester; John J. Shields, Jenkintown; John C. Traugh, Overbrook Hills.

MONTOUR COUNTY MEDICAL SOCIETY—Lee R. Lerman, Milton.

NORTHAMPTON COUNTY MEDICAL SOCIETY—Harvey O. Rohrbach, Bethlehem.

* PHILADELPHIA COUNTY MEDICAL SOCIETY—Anthony J. Abbruzzi, George H. Atkins, Emily P. Bacon, Philip S. Barba, Charles R. Barr, Edward L. Bauer, Mary K. Bazemore, Leonard F. Bender, Edward M. Bevilacqua, Israel Binder, James E. Bowman, William N. Bradley, Albert A. Burros, Jacob M. Cahan, Joseph L. Candido, Max Cantor, Howard Childs Carpenter, Dorothy Child; Charles J. Cole, Elkins Park; Solkin C. Copeland, Walter S. Cornell, Arthur M. Dannenberg, John Diven; John D. Donnelly, Bala-Cynwyd; A. H. Boyer Drake, Nathan H. Einhorn, Gabriel M. Epstein, Marie Finkelstein, Carl C. Fischer, Sylvan M. Fish; Herman Friedman, Willow Grove; Nathaniel Gildersleeve, Theodore M. Ginsburg, Samuel Goldberg, John L. Green, William B. Griggs, Gene B. Haber, Raymond C. Hacker, Alfred Hand, Marguerite Bailey Herman, John W. Holmes, Leo A. Kane, John P. Keating, Thomas C. Kelly, Robert J. Kressler, Jacob D. Leebron, Harry Lowenburg, Sr., Harry Lowenburg, Jr., Pascal F. Lucchesi, Donald F. Lyle; Julian M. Lyon, Ardmore; Aims C. McGuinness, Aloysius F. McNeerney, Norman M. MacNeill, Maurice M. Malen, Samuel A. Manstein, Nathan Manus, Louis Margolis, Henry V. Marvel, Ralph J. Melman, Irwin S. Meyerhoff, Samuel Meyers, H. Brooker Mills, I. Paul Morris, Margaret J. Nash, Rae V. Nicholas, Henry H. Perlman, Gerald E. Pratt, Samuel X. Radbill, Milton Rapoport, Charles S. Raue, Benjamin B. Rittenberg, Joseph A. Ritter, Rudolf Lynn Roddy, Edwin W. Rodenheiser, Upper Darby; Leonard G. Rowntree; B. Franklin Royer, Chambersburg; Harry Rubin, Mitchell I. Rubin, Rose S. Rubin, Samuel Rubin, Stanley J. Rugel, Eugene Rush, Robert A. Schless, Chester A. Scott, John P. Scott, Thomas F. McNair Scott, Fred R. Schechter, Alexander Silverstein, John F. Sinclair, Samuel Singer, Harry S. Snyderman, Myer Solis-Cohen, Louis S. Steinberg, William P. Stewart, Joseph Stokes, Jr., A. Clarke Stroup, Charles N. Sturtevant, J. Hart Toland, Ralph M. Tyson; Mary D. Varker, Berwyn; Jacob Wallen, James J. Waygood, Ruth H. Weaver; LeRoy J. Wenger, Sharon Hill; Harry Wexler, Theodore S. Wilder, John C. Williams, Thomas A. Williams, Jr., Rachel Mulford Winlock, Irving J. Wolman, Dorothy Donnelly-Wood.

* Where no address is given, Philadelphia is indicated.

SCHUYLKILL COUNTY MEDICAL SOCIETY—Mary M. S. Romeika, Shenandoah.

WYOMING COUNTY MEDICAL SOCIETY—Arthur B. Davenport, Tunkhannock.

YORK COUNTY MEDICAL SOCIETY—Raymond M. Lauer, York.

HUNTINGDON COUNTY MEDICAL SOCIETY—Alma Read-Derick, Mt. Union.

LACKAWANNA COUNTY MEDICAL SOCIETY—Samuel Gross, William D. Whitehead, Scranton.

LEBANON COUNTY MEDICAL SOCIETY—Paul S. Seabold, Lebanon.

LEHIGH COUNTY MEDICAL SOCIETY—Douglas A. Decker, Allentown.

LUZERNE COUNTY MEDICAL SOCIETY—Joseph W. Piekarski, Wilkes-Barre.

MONTGOMERY COUNTY MEDICAL SOCIETY—Howard E. Twining, Glenside.

NORTHAMPTON COUNTY MEDICAL SOCIETY—Edgar R. Beidelman, Bethlehem.

* PHILADELPHIA COUNTY MEDICAL SOCIETY—Jesse Hall Allen, Herman Beerman, Morris Cornfeld, Edward F. Corson, Yetta E. Deitch, Reuben Friedman, Vaughn C. Garner, Robert L. Gilman, Louis Goldstein, Charles Goss, Sigmund S. Greenbaum, Marjory K. Hardy, Bernard L. Kahn, Joseph V. Klauder, Blanche F. Kleiner, Frank C. Knowles, Clarence S. Livingood, Donald Macfarlan, Morris Markowitz, Jerome Miller, Henry G. Munson, Meyer L. Niedelman, Clarence Eugene Perkins, George R. Rodgers, M. Harriss Samitz, Reuben B. Schwartz, William G. Shields, Jr., David M. Sklaroff, Donald C. Smelzer, Herbert J. Smith, Berthold M. Stern, Albert Strickler, Jacob L. Strousse, Carmen C. Thomas, Virgene Scherer Wammock, Fred D. Weidman, Milton N. White, Carroll S. Wright, Isadore Zugerman.

SCHUYLKILL COUNTY MEDICAL SOCIETY—Irvin E. Sausser, Valley View.

YORK COUNTY MEDICAL SOCIETY—Milton H. Cohen, York.

MINUTES OF THE SECTION ON DERMATOLOGY

Tuesday, Oct. 1, 1940

The Section on Dermatology met at 9 a.m. Vaughn C. Garner, Philadelphia, chairman, presided.

The meeting was opened by a Symposium on Fungous Infections, consisting of 2 papers: "The Clinical Aspects of Fungous Infections," a lantern demonstration by Francis A. Hegarty, Pittsburgh, and "The Laboratory Aspects of Fungous Infections," by Fred D. Weidman, Philadelphia. This symposium was discussed by Frederick M. Jacob, Pittsburgh, Dr. Weidman, and Albert Strickler, Philadelphia.

The guest speaker, Eugene F. Traub, New York City, gave a lantern demonstration on the subject of "Nevi, Melanoma, and Skin Cancer."

The chairman then called for the report of the Executive Committee, which placed in nomination as officers of the section for the coming year the names of Park A. Deckard, Harrisburg, as chairman, and Bernhard A. Goldmann, Pittsburgh, as secretary. These officers were unanimously elected.

After a brief intermission, there was a Symposium on Acne Vulgaris, consisting of 3 papers: "The Clinical Phases and Differential Diagnosis of Acne Vulgaris," by Raymond J. Rickloff, Erie, with lantern demonstration; "The Role of Heredity in Acne Vulgaris," by Thomas Butterworth, Reading; and "Roentgen-Ray Treatment of Acne Vulgaris," by Howard E. Twining, Philadelphia. These papers were discussed by Carroll Wright, Philadelphia.

The meeting adjourned at 4:15 p.m.

VAUGHN C. GARNER, *Chairman*,
BERNHARD A. GOLDMANN, *Secretary*.

Members Registered in Section on Dermatology (63)

ALLEGHENY COUNTY MEDICAL SOCIETY—Stanley Crawford, Bernhard A. Goldmann, Francis A. Hegarty, Lester Hollander, Frederick M. Jacob, Pittsburgh; Francis J. Krugh, Munhall; Harold R. Vogel, Pittsburgh.

BERKS COUNTY MEDICAL SOCIETY—William E. Fisher, Reading; David S. Grim, Sheridan.

BUCKS COUNTY MEDICAL SOCIETY—Otto H. Strouse, Perkasio.

CAMBRIA COUNTY MEDICAL SOCIETY—John W. Barr, Johnstown.

CENTRE COUNTY MEDICAL SOCIETY—Harriett M. Harry, State College.

DAUPHIN COUNTY MEDICAL SOCIETY—Park A. Deckard, Harrisburg.

ERIE COUNTY MEDICAL SOCIETY—Raymond J. Rickloff, Erie.

MINUTES OF THE SECTION ON UROLOGY

Tuesday, Oct. 1, 1940

The first session of the Section on Urology was called to order at 2 p.m. Frederick S. Schofield, Philadelphia, chairman, presided.

The chairman announced that in the absence of David P. McCune and Stacy M. Hankey, of the Executive Committee, he was appointing Leon Herman and Elmer Hess to serve with William H. Mackinney for the purpose of making a report of the Executive Committee at the second session and nominating the officers for the ensuing year.

William Baurys, Nanticoke, presented the first paper, a lantern demonstration on "Bladder Neck Obstruction in the Female." This was discussed by Peter P. Mayock, Wilkes-Barre, James F. McCahey and Leon Herman, Philadelphia.

Stanford W. Mulholland, Philadelphia, presented a lantern demonstration on the subject of "Vesical Diverticula Today," which was discussed by William A. Barrett, Pittsburgh, who showed a number of lantern slides, and by Stirling W. Moorhead, Philadelphia.

"Treatment of Testicular Tumors" was the subject of the next paper, a lantern demonstration by Theodore R. Fetter, Philadelphia, which was discussed by Leon Herman, George W. Chamberlin, Francis G. Harrison, and

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George D. Shoup, all of Philadelphia, and by Dr. Fetter (in closing).

Boland Hughes, Philadelphia, read a paper on "The Rôle of Nephrectomy in Hypertension," a lantern demonstration, which was discussed by William C. Hutchison, McKeesport, and S. Harris Johnson, Pittsburgh.

"The Rôle of Papillary Pathology in Renal Calculus Formation" was the subject of the next lantern demonstration, presented by Alexander Randall, Philadelphia, and discussed by S. Harris Johnson, III, Pittsburgh, and Dr. Randall (in closing).

The first session adjourned at 5 p. m.

Wednesday, Oct. 2, 1940

The second session of the Section on Urology was called to order by the chairman shortly after 1:30 p. m.

William H. Mackinney, Philadelphia, reported he had met with Drs. Herman and Hess and that the committee placed in nomination the names of Robert L. Anderson, Pittsburgh, as chairman of the section for the ensuing year, and Willard C. Masonheimer, Allentown, to continue as secretary for another year. It was moved and seconded that the nominations be closed, whereupon the chairman instructed the secretary to cast a ballot, and Drs. Anderson and Masonheimer were declared elected unanimously for the offices named.

George Gilbert Smith, Brookline, Mass., guest speaker, presented a lantern demonstration on "Total Prostatectomy for Carcinoma of the Prostate," which was discussed by David M. Davis, Leon Herman, Alexander Randall, all of Philadelphia, and Dr. Smith (in closing).

David Alan Sampson, Philadelphia, read a paper by himself and Jacob H. Vastine, II, Philadelphia, on the subject of "Subcutaneous Urography" with lantern demonstration. This was followed by a paper on "The Shortcomings of Intravenous Urography," a lantern demonstration by David M. Davis, Philadelphia. These 2 papers were discussed by Joseph C. Birdsall, Philadelphia, who showed a number of roentgen-ray pictures; William F. Schmidt and Leon Herman, Philadelphia; and Dr. Davis (in closing).

Last on the program was a Symposium on Pyelitis in Pregnancy. Edward W. Campbell, Philadelphia, presented a paper for the urologists, and Robert A. Kimbrough, Jr., Philadelphia, read a paper for the obstetricians. Both papers were discussed by Leon Herman, Francis H. Eton, and Newlin F. Paxson, all of Philadelphia, and by Dr. Kimbrough (in closing).

The meeting adjourned at 5 p. m.

FREDERICK S. SCHOFIELD, *Chairman*,

WILLARD C. MASONHEIMER, *Secretary*.

Members Registered in Section on Urology (78)

ALLEGHENY COUNTY MEDICAL SOCIETY—Robert L. Anderson, William A. Barrett, William C. Bryant, Pittsburgh; Henry J. Gowaty, Wilmerding; Samuel H. Johnson, III, Arthur I. Murphy, Charles C. Murphy, Pittsburgh.

BEAVER COUNTY MEDICAL SOCIETY—James L. Whitehill, Beaver.

BERKS COUNTY MEDICAL SOCIETY—Merrill B. DeWire, Reading.

BRADFORD COUNTY MEDICAL SOCIETY—Thomas Dimittroff, Sayre.

CAMBRIA COUNTY MEDICAL SOCIETY—Albert F. Doyle, Johnstown.

DELAWARE COUNTY MEDICAL SOCIETY—George L. Armitage, Walter A. Blair, Kenneth J. Crothers, Chester.

ERIE COUNTY MEDICAL SOCIETY—Elmer Hess, Erie.

HUNTINGDON COUNTY MEDICAL SOCIETY—Frederic H. Steele, Huntingdon.

LACKAWANNA COUNTY MEDICAL SOCIETY—Leo P. Gibbons, Scranton.

LANCASTER COUNTY MEDICAL SOCIETY—John D. Denney, Columbia.

LEHIGH COUNTY MEDICAL SOCIETY—Robert H. Dilcher, Clarke S. Kistler, Willard C. Masonheimer, Allentown.

LUZERNE COUNTY MEDICAL SOCIETY—William Baurys, Nanticoke; William J. Daw, Forty Fort; Peter P. Mayock, Wilkes-Barre.

LYCOMING COUNTY MEDICAL SOCIETY—J. Stanley Smith, Williamsport.

MONTGOMERY COUNTY MEDICAL SOCIETY—Eleanor Seidler, Norristown.

MONTOUR COUNTY MEDICAL SOCIETY—Walter I. Buchert, Danville.

NORTHAMPTON COUNTY MEDICAL SOCIETY—Joseph N. Corriere, Easton.

NORTHUMBERLAND COUNTY MEDICAL SOCIETY—Alexander Slavcoff, Selinsgrove.

* PHILADELPHIA COUNTY MEDICAL SOCIETY—Thomas H. Atkinson, Walter W. Baker, Eleanor H. Balph, Joseph C. Birdsall, Harry A. Bogaev, John A. Broadfield, Edward W. Campbell, Richard J. Campion, I. Jay Carp, David M. Davis, William J. Ezickson, Theodore R. Fetter, Howard G. Fretz, Helen K. Grace, Lloyd B. Greene, Wilbur H. Haines, Francis G. Harrison, Charles W. Herman, Boland Hughes, Paul R. Leberman, Harold Lipshutz, Edward T. Litt, John B. Lowmes, James F. McCahey, Clarence W. McConihay, Louraine E. McCrea, William H. Mackinney, Frank P. Massaniso, Stirling W. Moorhead, Edward A. Mullen, Stanford W. Mulholland, Maurice Muschat, Percy S. Pelouze, George P. Pilling, Jr., Alexander Randall, Philip S. Rosenblum, Herbert Rovno, Henry Sangree, Frederick S. Schofield, George D. Shoup, Daniel B. Taylor, W. Hersey Thomas, Harry Tulskey, Charles A. W. Uhle, Horace L. Weinstock, Stanley Q. West, F. Marian Williams.

WESTMORELAND COUNTY MEDICAL SOCIETY—Frank J. Pyle, Scottdale.

YORK COUNTY MEDICAL SOCIETY—Herman A. Gailey, York.

MINUTES OF SECTION ON OBSTETRICS AND GYNECOLOGY

Tuesday, Oct. 1, 1940

The meeting was called to order at 9:15 a. m. by the chairman, T. Kevin Reeves, Pittsburgh.

Paul O. Klingensmith, Philadelphia, read a paper on "Effect of the Architecture of the Pelvis Upon the Mechanism of Labor." Discussed by Carl E. Bach-

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man, Thaddeus L. Montgomery, Norris W. Vaux, all of Philadelphia, and Dr. Klingensmith (in closing).

Owen J. Toland, Philadelphia, read a paper on "Experience with Routine Contraceptive Advice to Ward Maternity Patients." Discussed by Thaddeus L. Montgomery and Norman L. Knipe, Philadelphia, and Dr. Toland (in closing).

Hoke Wammock, Philadelphia, read a paper on "Carcinoma of the Vulva," written by him and Roscoe W. Teahan. Discussed by Charles A. Behney, Philadelphia, and Dr. Wammock (in closing).

Joseph A. Hepp, Pittsburgh, read a paper on "Stilboestrol—Clinical and Investigational Study." Discussed by Norris W. Vaux, Philadelphia.

With the consent of the section, John C. Ullery, Philadelphia, read a paper by Craig Wright Mucklé, Philadelphia, on "The Suppression of Lactation by Stilboestrol." Discussed by Clifford B. Lull, Philadelphia.

Charles I. Lintgen, Philadelphia, read a paper on "Pain in the Right Lower Abdomen in Women." Discussed by Robert A. Kimbrough and John J. Gilbride, Philadelphia.

Walter J. Larkin, Scranton, read a paper on "Medical Treatment of Dysmenorrhea in a Group of Student Nurses." No discussion.

The session adjourned at 12:30 o'clock.

Wednesday, Oct. 2, 1940

The meeting was called to order at 9:35 a.m. by the chairman.

Clifford B. Lull, Philadelphia, was elected chairman of the section for the coming year, and Raymond A. D. Gillis, Pittsburgh, was elected secretary.

James H. Mering, Jr., presented his and Sidney A. Chalfant's paper on "Leiomyomata Uteri with Associated Pelvic Inflammatory Infection." Discussed by Everett M. Baker, Pittsburgh, and Dr. Mering (in closing).

George S. Lipman, Pittsburgh, presented his and T. Kevin Reeves' paper on "Lithopedion." Discussed by David B. Ludwig, Pittsburgh.

James S. Taylor, Altoona, read a paper on "Obstetric Hazards in Pennsylvania." Discussed by John Cooke Hirst, II, Philadelphia, and Dr. Taylor (in closing).

Frederick C. Irving, Boston, Mass., guest speaker, read a paper on "The Results in the Treatment of 1182 Consecutive Cases of Pre-eclampsia."

Franklin L. Payne, Philadelphia, read a paper on "Endometriosis—Diagnosis and Treatment." Discussed by Lewis C. Scheffey, Philadelphia.

Clifford B. Lull, Philadelphia, the new chairman, was introduced to the audience, and closed the meeting.

The session adjourned at 12 o'clock.

T. KEVIN REEVES, *Chairman*,
CRAIG W. MUCKLÉ, *Secretary*.

Members Registered in Section on Obstetrics and Gynecology (220)

ALLEGHENY COUNTY MEDICAL SOCIETY—Everett M. Baker, Harold J. Bayer, Frank C. Blessing, Eugene A. Conti, R. A. D. Gillis, Pittsburgh; Hubert J. Goodrich, McKees Rocks; Joseph A. Hepp, George S. Lipman, David B. Ludwig, Pittsburgh; Ruth S. Masters, East

McKeesport; James H. Mering, Jr., T. Kevin Reeves, James N. Stanton, Jr.

ARMSTRONG COUNTY MEDICAL SOCIETY—T. Craig McKee, Kittanning.

BERKS COUNTY MEDICAL SOCIETY—Harold Hirshland, Jeremiah B. Pearah, Reading.

BLAIR COUNTY MEDICAL SOCIETY—Harold F. Moffitt, James S. Taylor, Altoona.

BUCKS COUNTY MEDICAL SOCIETY—Bradford Green, Buckingham.

CAMBRIA COUNTY MEDICAL SOCIETY—David S. Bantley, Walter C. Raymond, Verna V. Turner, Johnstown.

CENTRE COUNTY MEDICAL SOCIETY—Joseph A. Parrish, Bellefonte.

CHESTER COUNTY MEDICAL SOCIETY—George E. Dietrich, Coatesville; Oscar J. Klevan, Frank H. Wells, West Chester.

CUMBERLAND COUNTY MEDICAL SOCIETY—S. Dana Sutliff, Shippensburg.

DELAWARE COUNTY MEDICAL SOCIETY—William T. Brogan, Norwood; David M. Farrell, Yeadon; Florence E. Kraker, Media; Robert E. Shoemaker, Springfield; John J. Sweeney, John C. Ullery, Upper Darby.

ERIE COUNTY MEDICAL SOCIETY—James D. Stark, Erie.

FAYETTE COUNTY MEDICAL SOCIETY—Edison H. Harmon, S. Connellsville.

GREENE COUNTY MEDICAL SOCIETY—Donald R. Jacobs, Waynesburg.

HUNTINGDON COUNTY MEDICAL SOCIETY—Cloy G. Brumbaugh, Huntingdon; William J. Campbell, Mt. Union.

JEFFERSON COUNTY MEDICAL SOCIETY—Joseph P. Benson, Francis J. Trunzo, Punxsutawney.

LACKAWANNA COUNTY MEDICAL SOCIETY—Vincent A. Andriole, Scranton; Desmond M. Bailey, Carbondale, Myron H. Ball, Rose S. Greenberg, J. Curtis Hellriegel, Walter J. Larkin, Scranton; Richard D. Roderick, Jermyrn.

LANCASTER COUNTY MEDICAL SOCIETY—J. Stanley Cohen, Philadelphia; William F. Hartman, Lancaster; Jacob E. Hostetter, Gap; Jerome S. Kendig, Salunga; Arlene B. Schlott, Ephrata.

LEBANON COUNTY MEDICAL SOCIETY—Louis G. Fetterman, Campbelltown.

LEHIGH COUNTY MEDICAL SOCIETY—John J. Bernhard, Lyster M. Gearhart, John W. Noble, Myrtle M. Siegfried, Allentown.

LUZERNE COUNTY MEDICAL SOCIETY—Albert R. Feinberg, Wilkes-Barre; Joseph V. Fescina, Hazleton; Almon C. Hazlett, Wyoming; Joseph J. Kocyan, Wilkes-Barre.

MONTGOMERY COUNTY MEDICAL SOCIETY—Herbert A. Bostock, Norristown; John W. Cornwath, Rydal; Mahlon C. Hinebaugh, Jr., Narberth; Francis J. McGearry, Roland D. Porter, Jenkintown; John B. Sherbon, Pottstown.

MONTOUR COUNTY MEDICAL SOCIETY—Roy E. Nico-demus, Danville.

NORTHAMPTON COUNTY MEDICAL SOCIETY—Louis F. Burkley, Stephen E. Murray, Easton; Frederick J. Pearson, Herbert J. Schmoyer, Bethlehem; Carlyle M. Thomas, Bangor.

NORTHUMBERLAND COUNTY MEDICAL SOCIETY—Joseph T. Wasilewski, Kulpmont.

* **PHILADELPHIA COUNTY MEDICAL SOCIETY**—James M. Alesbury, Isaac Andrussich, Brooke M. Anspach, Jesse O. Arnold, Carl E. Bachman, Victor L. Baker, Charles S. Barnes, Charles H. J. Barnett, S. Stanley Barr, Matilda Beaver, Charles A. Behney, Leon L. Berns, J. Bernard Bernstine, Edward H. Bishop, P. Brooke Bland, Frank S. Bowman, Clarence Conway Briscoe, Emilie E. Burke, James F. Carrell, Mario A. Castallo, Roland A. Christensen, Lida Stewart Cogill, Charles D. Coppes, Salvatore Cucinotta, Louis J. Decina, Alfred H. Diebel, John H. Dugger, Harry A. Duncan, Francis H. Eaton, Isadore Selig Epstein, Joseph N. Epstein, Louis G. Feo, Raymond M. Fine, Goldie Fink, Frederick W. Fortune, Morris Franklin, Frank J. Frosch, Thomas B. Getty, Ann Tomkins Gibson, John J. Gilbride, Walter A. Graham; Ella W. Grim, Media; Leonard C. Hamblock, Angie Stiles Hamilton, Frank C. Hammond, George C. Hanna, Jr., Emil L. Harasym, Bernard Hark, Louis Herman, DeHaven Hinkson, Eugene T. Hinson, John C. Hirst, II, Henry B. Ingle, Jacob K. Jaffe, Franklin M. Kern, Harry T. Kessler, Robert A. Kimbrough, Paul O. Klingensmith, Norman L. Knipe, Gabriel J. Kraus, Henry D. Lafferty, George M. Laws, Benjamin Leff, Jacob C. Lerner, James P. Lewis, Mary R. Lewis, Charles I. Lintgen, Daniel Longaker, Jonathan E. Loughridge, John A. Luders, Clifford B. Lull, John Q. McDougald, Mary J. McIlvaine, D. Randall MacCarroll, Bruce V. MacFadyen, Catharine Macfarlane, William J. MacMurtrie, Ernest G. Maier, Bernard Mann, Jacob K. Marks, Salvador L. Meshon, Ford A. Miller, Margaret R. Milligan, Christopher J. Mogan, Roy W. Mohler, John B. Montgomery, Thaddeus L. Montgomery, Douglas P. Murphy, Sophia H. Nabut, Samuel Nicholas, William R. Nicholson, Sophie Ostrow, George W. Outerbridge, Samuel Padget, Newlin F. Paxson, Alberta Peltz, Leon N. Prince, David Promin, Abraham E. Rakoff, James S. Raudenbush, Matthew F. Reilly, James L. Richards, Donald Riegel, Desiderio Roman, Meyer Sabel, Henry J. Sangmeister, Saul P. Savitz, Morris H. Schaeffer, Lewis C. Scheffey, Edward A. Schumann, Shahin M. Shahinian, John A. Sharkey, Howard D. Sivitz, Samuel H. Skloff, M. Noble Smith, Clyde M. Spangler, Louis Spitz, Jr., Camille J. Stamm, Cheney M. Stimson, Harry Stuckert, Margaret C. Sturgis, Walter Sussman, Alice W. Talant, Ann G. Taylor, Roscoe W. Teahan, William H. Teller, William J. Thudium, Owen J. Toland, Pendleton Tompkins, Stephen E. Tracy, Elsie Rau Treichler-Reedy, Norris W. Vaux, Adrian W. Voegelin, Charles S. Wachs, Jacob Walker, Miriam Warner, Edward D. Weiss, Marion West, Doris Willig, Edward B. Winheld, Samuel G. Winson, H. Curtis Wood, Jr., David Zimring.

SCHUYLKILL COUNTY MEDICAL SOCIETY—Guy L. Kratzer, New Ringgold.

SOMERSET COUNTY MEDICAL SOCIETY—Frank W. White, Rockwood.

WAYNE-PIKE COUNTY MEDICAL SOCIETY—William L. Roberts, Milford.

* Where no address is given, Philadelphia is indicated.

MINUTES OF SECTION ON CLINICAL LABORATORY MEDICINE

Tuesday, Oct. 1, 1940

The meeting was called to order at 2 p.m. by the chairman, H. Ivan Brown, of Reading.

Barton R. Young, Philadelphia, read a paper on "The Demonstration of Tumors and Nonneoplastic Diseases of the Respiratory Tract by Body Section Roentgenography (Planigraphy)." Discussed by Chevalier L. Jackson, Philadelphia.

Sydney J. Hawley, Danville, read a paper on "Correlation of Roentgen-Ray and Necropsy Findings." Discussed by Carl J. Bucher, Philadelphia, and Samuel R. Haythorn, Pittsburgh.

Stanley P. Reimann and Rufus S. Reeves, Philadelphia, presented a paper on "Report of Progress from the Division of Cancer Control, State Department of Health." Discussed by Samuel R. Haythorn, Pittsburgh.

Herman W. Ostrum, Philadelphia, read a paper on "Inflammatory Diseases of the Pericardium." Discussed by Samuel Bellet, Philadelphia.

George E. Pfahler, Philadelphia, read a paper on "A New Method for the Application of Radium within the Uterine Cavity, with Particular Reference to Carcinoma of the Fundus." Discussed by William R. Nicholson, Philadelphia.

Jacob Gershon-Cohen and Harry Shay, Philadelphia, read a paper on "The Double Contrast Barium Enema in the Diagnosis of Early Lesions." No discussion.

Wednesday, Oct. 2, 1940

EXECUTIVE SESSION

The meeting was called to order at 2 p.m.

Lawrence W. Smith, Philadelphia, reported on the scientific exhibit, calling special attention to the model laboratory set up in the exhibit.

Laurence C. Milstead, Allentown, reported for the section's Comity and Policy Committee, stating they had worked on a proposed fee list to be embodied in the health program.

G. Fisher reported for the proposed Committee on Nomenclature, submitting a list of proposed members to such a committee.

H. Ivan Brown read the chairman's report.

The following resolutions were adopted:

1. That a committee be appointed by the president of the State Society to prepare a resolution to be presented to the 1941 House of Delegates expressing dissatisfaction with the present coroner system and asking that endeavors be made to bring about a change in the method of handling medical cases by the coroner's office.

2. That the Board of Trustees of The Medical Society of the State of Pennsylvania be asked to change the name of the Section on Clinical Laboratory Medicine to the Section on Pathology and Radiology.

The following officers were elected: Chairman, Lloyd E. Wurster, Williamsport; secretary, Henry F. Hunt, Danville, to serve for the ensuing year.

SCIENTIFIC SESSION

H. Russell Fisher, Philadelphia, read a paper on "Aleukemic Leukemia." Discussed by Samuel W. Sappington and Richard P. Custer, Philadelphia, and Dr. Fisher (in closing).

Richard P. Custer, Philadelphia, read a paper on "The Coroner and the Medical Examiner." Discussed by John C. Simpson, Norristown; Warren J. Peters, Allentown; and Dr. Custer (in closing).

Thomas B. Magath, Rochester, Minn., guest speaker, read a paper on "Hydatid Disease (*Taenia Echinococcus*) in North America."

Constantine P. Faller, Harrisburg, read a paper on "Pneumonia Deaths and Deaths from Pneumonia." Discussed by Wendell J. Stainsby, Danville; John J. Shaw, Harrisburg; and Dr. Faller (in closing).

Edward L. Bortz, Philadelphia, spoke on "Pneumonia Control." Discussed by Claude P. Brown, Philadelphia; Dale C. Stahle and John B. McAllister, Harrisburg, and Laurence C. Milstead, Allentown.

H. IVAN BROWN, *Chairman*,
HENRY F. HUNT, *Secretary*.

Members Registered in Section on Clinical Laboratory Medicine (100)

ALLEGHENY COUNTY MEDICAL SOCIETY—Norman R. Goldsmith, New York City; Samuel R. Haythorn, Pittsburgh; Charles A. Koenig, Woodville; Krikor Yardumian, Pittsburgh.

BEAVER COUNTY MEDICAL SOCIETY—John H. Gemmell, Rochester; Thomas W. McCreary, Monaca.

BERKS COUNTY MEDICAL SOCIETY—H. Ivan Brown, Erwin D. Funk, Reading.

BLAIR COUNTY MEDICAL SOCIETY—George E. Boesinger, Altoona.

BUCKS COUNTY MEDICAL SOCIETY—Stanley M. Moyer, Quakertown.

CAMBRIA COUNTY MEDICAL SOCIETY—Bernard J. McCloskey, Johnstown.

CHESTER COUNTY MEDICAL SOCIETY—I. P. P. Hollingsworth, West Chester.

CLEARFIELD COUNTY MEDICAL SOCIETY—Dorothea F. McClure, Clearfield.

DELAWARE COUNTY MEDICAL SOCIETY—Augustus H. Clagett, Upper Darby; E. Wayne Egbert, Chester; Patrick J. Kennedy, Lansdowne; J. Stauffer Lehman, Philadelphia; Joseph E. Nowrey, Elwyn; George B. Sickel, Chester.

ERIE COUNTY MEDICAL SOCIETY—Ernest L. Armstrong, Erie.

HUNTINGDON COUNTY MEDICAL SOCIETY—Samuel G. Hibbs, Torrance; John M. Keichline, Huntingdon.

LACKAWANNA COUNTY MEDICAL SOCIETY—Frederic B. Davies, Scranton; Albert J. Kunschner, Clifford.

LEBANON COUNTY MEDICAL SOCIETY—John D. Boger, Lebanon.

LEHIGH COUNTY MEDICAL SOCIETY—Laurence C. Milstead, John J. Wenner, Allentown.

LUZERNE COUNTY MEDICAL SOCIETY—Thomas J. Wenner, Wilkes-Barre.

LYCOMING COUNTY MEDICAL SOCIETY—Lloyd E. Wurster, Williamsport.

McKEAN COUNTY MEDICAL SOCIETY—Francis DeCaria, Bradford.

MONTGOMERY COUNTY MEDICAL SOCIETY—John Eiman, Abington; Thomas K. Rathmell, John C. Simpson, Norristown.

MONTOUR COUNTY MEDICAL SOCIETY—Sydney J. Hawley, Henry F. Hunt, Danville.

NORTHAMPTON COUNTY MEDICAL SOCIETY—Henry A. Rothrock, Jr., Bethlehem.

PERRY COUNTY MEDICAL SOCIETY—John E. Romig, Duncannon.

* PHILADELPHIA COUNTY MEDICAL SOCIETY—Roland S. Aronson, John T. Bauer, William P. Belk, Samuel Bellet, Mark T. Booye, Claude P. Brown, Anthony R. Camero; Eugene A. Case, Lansdowne; Emmet F. Ciccone, Jefferson H. Clark, Thomas R. Currie; Elsie Curtis, Ardmore; George W. Deitz, Jr., Damaso de Rivas, B. Franklin Diserod, Isadore J. Eisenberg, Francis Ashley Faught, Grant O. Favorite, Sidney L. Feldstein, H. Russell Fisher, Aaron E. Fishman, James S. Forrester, Herbert Fox, Edwin S. Gault, Jacob Gershon-Cohen, Harold L. Goldburgh, Frederick E. Haentze, Sidney Harberg, Willard S. Hastings, Frank W. Konzelmann, John L. Laird, Charles W. Lueders, Frank B. Lynch, Jr., Berta M. Meine, David R. Meranze, Theodore Meranze, William F. Morrison, Verner Nisbet, George E. Pfahler, Jacob Pomerantz, Joseph W. Post, Stanley P. Reimann, Russell Richardson, Helena C. Riggs, Randle C. Rosenberger, Isadore E. Rubin, Samuel W. Sappington, Gordon J. Saxon, Daniel M. Shewbrooks, George A. Silver, Lawrence W. Smith, Robley D. Snively, William L. C. Spaeth, F. William Sunderman, Louis Udell; Arthur D. Waltz, Drexel Hill; Bernard P. Widmann, A. Vaughn Winchell, Marston T. Woodruff.

SCHUYLKILL COUNTY MEDICAL SOCIETY—Robert E. Hobbs, Shenandoah; Peter B. Mulligan, Ashland.

SUSQUEHANNA COUNTY MEDICAL SOCIETY—Raymond C. Davis, Susquehanna.

YORK COUNTY MEDICAL SOCIETY—Lewis C. Pusch, York.

Members Registered, Section Not Designated (114)

ALLEGHENY COUNTY MEDICAL SOCIETY—T. Lyle Hazlett, J. Frank MacDonald, Pittsburgh.

BERKS COUNTY MEDICAL SOCIETY—Frank P. Lytle, Birdsboro; Walter W. Werley, Reading.

BLAIR COUNTY MEDICAL SOCIETY—Charles S. Hendricks, Juniata; Benjamin L. Hull, Altoona.

BRADFORD COUNTY MEDICAL SOCIETY—James W. J. Carpenter, Sayre.

BUCKS COUNTY MEDICAL SOCIETY—Frank Lehman, Bristol.

CHESTER COUNTY MEDICAL SOCIETY—Herbert S. McKinstry, Kennett Square.

CLARION COUNTY MEDICAL SOCIETY—Gale H. Walker, Polk.

DAUPHIN COUNTY MEDICAL SOCIETY—William B. Fulton, Progress; James N. O'Brien, Harrisburg.

* Where no address is given, Philadelphia is indicated.

DELAWARE COUNTY MEDICAL SOCIETY—Walter V. Emery, Chester; Joseph Greenwald, Darby; George W. Lilley, Francis H. Murray, Chester.

LEHIGH COUNTY MEDICAL SOCIETY—Aaron Grossman, Allentown; Byron D. Wilkins, Northampton.

LUZERNE COUNTY MEDICAL SOCIETY—H. Alexander Smith, Wilkes-Barre.

MONTGOMERY COUNTY MEDICAL SOCIETY—Wallace W. Dill, Norristown; Norman Lepper, Rockledge.

NORTHAMPTON COUNTY MEDICAL SOCIETY—Glenn G. Klock, Easton; Russell S. Rinker, Bethlehem.

NORTHUMBERLAND COUNTY MEDICAL SOCIETY—Andrew B. Buczko, Mt. Carmel.

*PHILADELPHIA COUNTY MEDICAL SOCIETY—Albert Adlin, Fay K. Alexander, Rachel Ash, J. Paul Austin, Harry E. Bacon, Walter C. Barker, Katherine C. Bartlett, John B. Becker, Raymond G. Blood, Arthur L. Bolden, Francis J. Braceland, Aaron Brav, Howard E. Bricker, Carl J. Bucher, Richard D. Burke, John B. Cardone, George W. Chamberlin, John P. Chapman, Samuel H. Conn, Marie E. Currie-Frey, William F. Delaney, Edward Dessen, Melvin A. Dillman, Alfred S. Doyle, Aaron M. Dreer, John L. Dukes; Glenn S. Everts, Melrose Park; David L. Farley, Leo B. Freeman, Ralph Getelman, Gioacchino P. Giambalvo, Samuel B. Hadden, William A. Hamilton, Julia H. Hardin, Harry Hudson, Mary L. James, William T. Johnson, Bernard D. Judovich, Frank J. Kanter, Michael L. Levitt, Walter H. Lindsey, Harrie B. Lochhead, George Lorenz, Jr., N. Volney Ludwick, James W. McConnell, P. Robb McDonald, M. Catherine Magee, Valentine R. Manning, Herman C. March, Meyer A. Marks, Anthony Marsico, Albert A. Martucci, Sylvia Mazer, Harry P. Metzger, Russell F. Miller, J. Herbert Nagler, Paul H. Neese, Herman W. Ostrum; Paul H. Parker, Jenkintown; John Peoples, Milton Fraser Percival, Arthur W. Phillips, C. Fred Rau, Philip Q. Roche, John A. Rose, Jacob C. Rosen, D. Merrill Rosman, Helen M. Hayes Ryan, David Alan Sampson, James P. Sands, Francis M. Schilling, Paul H. Schraer, Harry L. Shusterman; J. Howard Smith, Swarthmore; J. Hunter Smith, Dewey A. Snyder, George W. Sohn, Leon Solis-Cohen, Samuel C. Stein, Edward A. Strecker, Robert P. Sturr, John H. Taeffner, Everett A. Tyler, Maurice Weisblum, Marcus I. Weissman, Louis R. Wiley, Jacob Yanoff.

WASHINGTON COUNTY MEDICAL SOCIETY—George R. Lyon, Marianna.

WESTMORELAND COUNTY MEDICAL SOCIETY—John I. Wiseman, Torrance.

YORK COUNTY MEDICAL SOCIETY—George E. Martz, York.

Guest Physicians

M. A. Blankenhorn, Cincinnati, Ohio; Richard B. Cattell, Boston, Mass.; Howard K. Gray, Rochester, Minn.; Frederick C. Irving, Boston, Mass.; Thomas B. Magath, Rochester, Minn.; Albert D. Ruedemann, Cleveland, Ohio; George Gilbert Smith, Brookline, Mass.; Eugene F. Traub, Francis W. White, New York City; Lawson Wilkins, Baltimore, Md.

Visiting Physicians from Other States

Reginald A. Archambault, Montreal; Charles P. Bailey, New Jersey State Society; Alvin Baldwin, Jr.,

Olney, Texas; Morton I. Berson, New York City; James M. Carlisle, Westfield, N. J.; K. M. Corrin, Wilmington, Del.; Margaret D. Craighill, Greenwich, Conn.; Elic A. Denbo, Camden, N. J.; A. P. Duryee, Everett, Wash.; Arthur L. Ennis, Maroa, Ill.; Ruben Fernandez, Valparaiso, Chile; Howard T. Fiedler, Massachusetts State Medical Society; B. Fleischmann, New York City; K. S. Fong, Hongkong, China; Hyman I. Goldstein, Camden, N. J.; Charles M. Gray, Vineland, N. J.; Ladd E. Hoover, Carlsbad, N. Mex.; Clara Horner-Rodger, Camden, N. J.; H. H. Hornstine, Wildwood, N. J.; Yin-hsiang Hsu, Peking, China; Edward Jackson, Denver, Colo.; Wilfred M. G. Jones, Miraj, India; B. A. Livengood, Woodbury, N. J.; Joseph P. McMahon, Milwaukee, Wis.; Charles M. MacNelly, Weatherford, Texas; Louis Merves, Camden, N. J.; J. Herbert Millburn, Tooele, Utah; Edward R. Neary, Newark, N. J.; Stanley H. Nichols, Asbury Park, N. J.; Nathan C. Norcross, Cambridge, Mass.; George B. Parham, Baltimore, Md.; George W. Paschal, Jr., New Jersey State Society; George P. Perakos, New Britain, Conn.; Rehbein Peralta, Barran, China; Bernard J. Pipe, Seattle, Wash.; S. Creadick Rhoads, New Jersey State Society; Franklin W. Rice, Morristown, N. J.; Eugene L. Sielke, Providence, R. I.; Jesus L. Soriano, Manila, Philippines; William H. Stoner, Bloomfield, N. J.; A. J. Strikol, Wilmington, Del.; Wray J. Tomlinson, Montgomery, W. Va.; James H. Underwood, Woodbury, N. J.; E. Olivia White, New York City, N. E. Newbury, Trenton, N. J.

Visiting Physicians from Pennsylvania*

Edwin B. Abramson, Maurice H. Alexander, Howard S. Anders; Wilbur D. Anders, Lansdale; James Arnao, George Ball, Howard A. Bellman, A. Berger, D. H. Black, Frederic H. Wilson, Leon D. Blumberg; John J. Boucek, Pittsburgh; Maurice J. Boulotchnik, Chester; John J. Burns, Eugene P. Campbell, J. Louis Caplan, A. R. Carpenter, Richard H. Chamberlain, Edgar D. Chankin, H. R. Churchill, A. E. Colcher; Elizabeth R. Constant, Drexel Hill; Hunter S. Cook, Bradford Crandall, Richard P. Custer; Howard A. Yost, Pottsville; Anthony P. DeNote, William Todd DeVan, John M. di Silvestro, Jr., Kenneth R. Doremus; K. O'Shea Elsom, Narberth; Jacob L. Engle, Drexel Hill; Charles F. Elterich; John L. Farmer, Lancaster; Herman L. Fittingoff; Julius Folds, Hazleton; Marie K. Formad, Kenneth E. Foy, Jesse H. Frank, Harold Frankel; Gladys Friend, Scranton; Herman J. Garfield, Theodore C. Geary, Philip Getson, Bernard M. Gilbert, Leopold Goldstein; Roy M. Good, Lewisburg; Paul E. Gordon; Philip C. Grana, Harrisburg; Conrad F. Hellwege, Clara W. Hoover, Ambrose Hunsberger; William J. Hutchins, Harrisburg; James A. Kane, Max D. Kasser; George P. Keefer, Springfield; Frank D. Kilgore, W. H. Krecker, W. H. Krecker, Jr.; C. B. Landen, Lititz; Lee Winston, Esmond R. Long; John A. McCormick, Drexel Hill; Vincent P. Mahoney, Norristown; Valentine R. Manning, Jr.; Francis F. Meilicke, Bethlehem; Irvin D. Metzger, Pittsburgh; C. Joseph Miller, Thomas E. Mochella, H. P. Murphy; Harold A. Strunk, Reading; Charles I. Oller; Francis J. O'Malley, Homestead; William B. Perry; Joseph N. Plumer, Cresson; Leopold A. Potkonski; A. S. Reynolds, Llanerch; Martin M. Rothstein; C. L. Santee, Wapwallopen; Herman Schlaff, John E. Schwab, Marie Severac, Arthur I. Sims; Leon S.

* Where no address is given, Philadelphia is indicated.

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Smelo, Pittsburgh; John M. Sniscak, Henry A. Spangler, Albert H. Sperling; Harry L. Stewart, Jr., Bala-Cynwyd; J. J. Stetzer, Ira G. Towson, Mary Vardaro, Beatrice S. Weisberg; and James E. Aiguier, D.D.S., Mugur Hagopian, D.D.S., Milton J. Waas, D.D.S.

REGISTRATION OF MEMBERS BY SECTIONS

Section on Medicine	858
Section on Surgery	393
Section on Pediatrics	175
Section on Eye, Ear, Nose, and Throat Diseases..	374
Section on Dermatology	63
Section on Urology	78
Section on Obstetrics and Gynecology	220
Section on Clinical Laboratory Medicine	100
Section not designated	114
Total number of members registered	2375

REGISTRATION OF MEMBERS BY COUNTIES

	Membership	At Philadelphia
Adams	32	2
Allegheny	1534	118
Armstrong	51	3
Beaver	104	9
Bedford	18	0
Berks	206	43
Blair	114	16
Bradford	42	11
Bucks	81	17
Butler	67	2
Cambria	181	19
Carbon	35	4
Centre	31	9
Chester	109	29
Clarion	28	4
Clearfield	61	13
Clinton	20	5
Columbia	40	5
Crawford	61	0
Cumberland	38	2
Dauphin	230	39
Delaware	240	75
Elk	31	3
Erie	172	18
Fayette	124	8
Franklin	68	4
Greene	28	1

	Membership	At Philadelphia
Huntingdon	28	13
Indiana	55	2
Jefferson	46	11
Juniata	7	1
Lackawanna	266	46
Lancaster	210	38
Lawrence	77	3
Lebanon	45	9
Lehigh	174	46
Luzerne	356	42
Lycoming	125	24
McKean	49	3
Mercer	92	5
Mifflin	34	5
Monroe	35	8
Montgomery	251	76
Montour	40	13
Northampton	167	38
Northumberland	78	12
Perry	16	2
Philadelphia	2484	1433
Potter	15	0
Schuylkill	175	20
Somerset	43	7
Susquehanna	17	2
Tioga	24	5
Venango	54	4
Warren	56	3
Washington	143	13
Wayne-Pike	24	3
Westmoreland	192	14
Wyoming	15	2
York	167	13
Total membership	9306	
Total registered attendance of members		2375

SUMMARY OF REGISTERED ATTENDANCE

Members	2375
Guest physicians	10
Visiting physicians from other states ..	44
Visiting physicians from Pennsylvania ..	95
Total physicians	2524
Dentists	3
Interns	62
Medical students	113
Nurses	32
Other visitors	11
Woman's Auxiliary	408
Grand total registered attendance	3153



Provisional Morbidity in Pennsylvania

August, 1940

Locality	Disease					Locality	Disease				
	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough		Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Aliquippa	0	0	1	0	6	New Castle	0	0	1	1	0
Allentown	1	4	3	2	29	New Kensington ...	0	0	0	0	2
Altoona	0	0	3	0	11	Norristown	0	0	0	0	3
Ambridge	0	0	0	0	2	North Braddock ...	1	0	0	0	0
Arnold	0	0	0	1	5	Oil City	0	1	0	0	5
Beaver Falls	0	0	0	1	0	Old Forge	0	0	0	0	0
Bellevue	0	0	0	0	0	Olyphant	0	0	0	0	0
Berwick	0	0	0	0	0	Philadelphia	1	107	43	5	199
Bethlehem	0	2	0	0	9	Phoenixville	0	0	0	0	0
Braddock	0	1	0	0	1	Pittsburgh	2	8	12	4	82
Bradford	0	0	0	0	0	Pittston	0	0	0	0	0
Bristol	0	0	0	0	0	Plymouth	0	0	0	0	1
Butler	0	0	0	2	5	Pottstown	0	0	0	0	0
Canonsburg	0	0	0	0	1	Pottsville	0	1	1	0	1
Carbondale	0	0	0	0	0	Reading	0	12	0	0	71
Carlisle	0	0	0	0	0	Scranton	0	1	3	2	2
Carnegie	0	0	0	0	0	Shamokin	0	0	0	0	0
Chambersburg	0	1	0	0	0	Sharon	0	8	0	0	5
Charleroi	0	0	0	0	0	Shenandoah	0	0	0	0	0
Chester	1	1	2	0	12	Steelton	0	0	0	0	0
Clairton	0	0	0	1	0	Sunbury	0	0	0	0	13
Coatesville	0	0	0	0	0	Swissvale	0	1	0	0	0
Columbia	0	0	0	0	1	Tamaqua	0	0	0	0	0
Connellsville	0	0	0	0	1	Taylor	0	0	0	0	0
Conshohocken	0	2	1	0	0	Turtle Creek	0	0	0	0	0
Coraopolis	0	1	1	0	4	Uniontown	0	0	0	0	0
Dickson City	0	0	0	0	0	Vandergrift	0	0	0	0	2
Donora	0	0	0	0	0	Warren	0	0	1	0	5
Dormont	0	0	0	0	0	Washington	0	0	2	0	8
Du Bois	0	1	0	0	1	Waynesboro	0	0	0	0	0
Dunmore	0	0	0	0	0	West Chester	0	1	0	0	3
Duquesne	0	0	0	0	0	Wilkes-Barre	0	1	1	0	0
Easton	0	0	0	0	7	Wilkesburg	1	0	0	0	22
Ellwood City	1	0	1	0	7	Williamsport	0	2	2	0	4
Erie	0	3	1	1	45	York	0	1	1	0	19
Farrell	0	3	0	0	2	Townships					
Franklin	0	0	0	0	0	Allegheny County:					
Greensburg	0	0	0	0	2	Harrison	0	0	1	0	3
Hanover	0	0	0	0	2	Mt. Lebanon	0	1	0	0	0
Harrisburg	0	1	0	0	10	Stowe	0	0	0	0	0
Hazleton	0	0	0	0	0	Delaware County:					
Homestead	0	0	1	0	0	Haverford	1	1	0	0	1
Jeannette	0	0	0	0	0	Upper Darby	0	0	1	0	1
Johnstown	0	0	1	0	0	Luzerne County:					
Kingston	0	0	0	0	1	Hanover	0	0	0	0	1
Lancaster	0	0	1	0	9	Plains	0	0	0	0	0
Latrobe	0	0	0	0	0	Montgomery County:					
Lebanon	0	0	0	2	0	Abington	0	0	0	0	7
Lewistown	0	0	0	0	0	Cheltenham	0	0	0	0	3
McKees Rocks	0	0	0	1	0	Lower Merion ...	0	1	2	0	1
McKeesport	0	2	1	0	1						
Mahanoy City	0	0	0	0	0	Total Urban ..	9	171	92	24	645
Meadville	0	2	1	0	5	Total Rural ...	9	50	66	33	525
Monessen	0	0	3	1	0						
Mount Carmel	0	0	0	0	0	Total State ...	18	221	153	57	1170
Munhall	0	0	0	0	0						
Nanticoke	0	0	0	0	0						

TUBERCULOSIS ABSTRACTS

A Review for Physicians

PREPARED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

Published through the co-operation of the Pennsylvania Tuberculosis Society
and The Medical Society of the State of Pennsylvania

A STUDY of tuberculosis among students at Lund University in Sweden by Hedvall and Malmros calls attention to the great risk of tuberculosis confronting young people and describes an excellent procedure for mass surveys of students. Of special interest is the discovery that the high incidence of tuberculosis among medical students was traced to the necropsy examinations during their course in pathology. Abstracts of the study follow:

INCIDENCE OF TUBERCULOSIS AMONG UNIVERSITY STUDENTS

Pulmonary tuberculosis is characterized by an insidious protracted course and a prolonged absence of clinical symptoms. When such symptoms finally appear, the lung changes have frequently spread extensively in one or both lungs. It is essential, therefore, that pulmonary tuberculosis should, if possible, be diagnosed before the appearance of morbid symptoms.

Examination Procedure

On registration all students are required to come to the Students' Tuberculosis Bureau for an examination. On the first visit a careful history is taken, a tuberculin test by the Pirquet method and a sedimentation test are made, together with a fluoroscopic and radiographic examination. If the tuberculin test is negative, the students are retested by the Mantoux method with from 0.1 up to 1 mg. of tuberculin. Only those who do not react to the 1 mg. dosage are considered negative.

A re-examination of all students is made at least once a year following the same procedure of the original examination, with the exception of the roentgen-ray examination and this is done every third year. However, a roentgenogram is taken when the previous history, rate of sedimentation or fluoroscopic examination indicates something suspicious, or when greater caution is necessary for some other reason. When the tuberculin reaction changes from negative to positive, a roentgenogram is taken every third month during the first year after the primary infection and every 6 months during the second

year, even if no changes have been demonstrated. On the other hand, if any changes are observed, they are followed by means of roentgen rays at intervals of a few weeks or months, irrespective of expense.

Altogether 3336 persons were examined; 638 were medical students, 1367 philosophy students, 409 theology students, 488 law students. To these were added 434 probationary nurses at the South Sweden School for Nurses. They were included in order to obtain a comparison with the medical students since both these groups are undoubtedly exposed to a certain risk of tuberculous infection.

Results of Survey

Among those examined, 133, or approximately 4 per cent, were found to have active tuberculosis. Of the 133 cases, (a) 47 were tuberculin-negative and had normal lung roentgen rays when entering the university or school for nurses; (b) 43 had been infected at some period of their lives, since they were tuberculin-positive on first examination but were radiologically sound, and (c) the remaining 43 were tuberculin-positive and did not show a normal roentgen-ray picture of the lungs on first examination. Some of these already had tuberculosis, but others did not develop it until later.

In general, the tuberculous changes were progressive and significant. Of the 47 who showed no evidence of tuberculosis on entrance, there developed 14 cases of pulmonary tuberculosis as well as cases of erythema nodosum, exudative

pleurisy, tuberculous peritonitis, and miliary tuberculosis, with 2 deaths.

Of the 43 in the second group who were tuberculin-positive but radiologically sound on first examination, 37 developed pulmonary tuberculosis, 2 tuberculosis of the hilar lymph nodes, and 4 pleurisy. One of the patients with pleurisy developed pulmonary tuberculosis as a complication and died.

Of the 133 cases of tuberculosis found in the period from 1930 to the end of the 1937 spring term, 110 were among the university students and 23 among the nurses. Ninety-five students and 15 nurses are at present fit for work. Of the other patients, 9 have died, 5 are unfit for work, and 9 are still at the sanatorium.

It is of interest, however, not only to know the number of cases found and how they developed but also the frequency of the disease in the different groups, as shown in the table:

	No. of Persons Examined	No. of Cases of Tuberculosis Found	Percentage
Medical students	638	72	11.3
Philosophy students . .	1367	17	1.2
Theology students	409	12	2.9
Law students	488	9	1.8
Nurses	434	23	5.3

These figures indicate that both medical students and probationary nurses are exposed to a considerable risk of tuberculous infection.

Medical Student Incidence Studied

During the first year no case of tuberculosis was found among the medical students. In the second year 4 cases were detected and during the third to fifth year 10 cases each year. From the sixth to the ninth year only 6, 4, 2, and 1 cases respectively were diagnosed. Thus, most of the tuberculous cases were discovered during the third to fifth year of study, a period which coincides with the last course before and the first courses after the beginning of the practical training at the hospital. Since the medical students live under practically the same conditions as other students at the university, the high tuberculosis morbidity among them must be due to a risk of infection to which they alone are exposed.

Quite a number of the medical students are primarily infected before they begin their hospital training course and, therefore, some course

taken before this training must be significant. The medical students themselves have for a long time suspected that the course in general pathology taken before the hospital duty, and lasting one year, constitutes a danger of tuberculous infection. In at least 16 cases there is a significant connection between the course of general pathology and the appearance of the primary infection. In the other cases the primary infection occurred either before or after the pathologic course, during the training at the hospital.

The infection acquired during the course in pathology may have originated from fellow students or physicians. The probability of this happening was, however, carefully excluded. For this reason, thorough and repeated examinations of the necropsy rooms were made for the presence of tubercle bacilli. Samples were taken from towels, trays, dust on the necropsy tables and in the rooms, and it was found that in spite of all precautions during the necropsy examinations, tubercle bacilli were discovered when an examination was made 24 hours after a necropsy examination of a person with pulmonary tuberculosis. In addition to guinea pig inoculations, suitable cultural experiments were made to obtain a quantitative idea of the presence of tubercle bacilli on the objects and in the rooms examined.

As a result of these examinations, more stringent precautions in disinfecting the necropsy rooms were taken, and finally it was agreed, at least for the present, to limit the necropsy examinations of tuberculous patients as much as possible. The results of the latter step are as yet available only for 2 terms. Nevertheless, examinations showed that for the first time all tuberculin-negative reactors at the beginning of the course were also negative at the conclusion of the course. The investigation is being continued and the definite result awaited, but the authors feel they are justified in expressing the view that excessive tuberculosis morbidity among medical students can be reduced by taking special precautionary measures against tuberculous infection in hospitals and in rooms in which necropsy examinations of tuberculous subjects are performed.

The Incidence of Tuberculosis Among Students at Lund University, Erik Hedvall, M.D., Amer. Rev. of Tuberc., Vol. XLI, No. 6, June, 1940.

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, *Secretary*
8104 Jenkins Arcade
Pittsburgh, Pa.

SEARCH THE MINUTES

Search the minutes of the 1940 House of Delegates of The Medical Society of the State of Pennsylvania as they appear in this issue of the JOURNAL (pages 313 to 342). In truth, to paraphrase a popular expression, "thar's information in them thar discussions." Don't be discouraged when you observe that the minutes occupy 30 JOURNAL pages. These are not ordinary minutes; rather, with the exception of certain essentials as the election of officers, the presentation of reports by title, and motions to adjourn, they are alive with accurate records which reflect the effect of world-wide, national, state, and county movements having their origin in war, in depressions, and in human misery in general.

The minutes as printed are dotted with captions to indicate as well as to emphasize certain subjects of peculiar current interest. Read them through. You will find therein a 3000-word discourse followed by active discussion on the unaccustomed topic of "the failing supply of interns." In the thousands of words devoted to the anything but threadbare subject of "medical care of the indigent" appear not only pertinent comments from all sections of the state but a startling interlude that records an assured fact; namely, that the State of Pennsylvania ineptly spent \$800,000 to distribute \$400,000 worth of milk free to children on relief.

Do any or all of these House of Delegates activities mean that our state medical society is overly sensitive to problems or influences outside the realm of progress in medical science and service? Not at all. The society is only reacting normally to the tremendous increase in governmental activity in the sickness service phase of national defense, state relief, and the popular demands for adequate medical service to persons and families of all income levels.

And don't stop with a single reading of the minutes. Read them again studiously, with the determination to apply that which you learn therefrom to any and all means and avenues of ameliorating human suffering through ever-

broadening avenues of consistently improving medical service in the office, the home, or the hospital, in military or industrial service. In so doing we but carry on traditionally, knowing full well our present-day difficulties will soon be replaced by other difficulties.

What is difficulty? Samuel Warren once said, "Difficulty is only a word indicating the degree of strength requisite for accomplishing particular objects; a mere notice of the necessity for exertion; a bugbear to children and fools; only a stimulus to men."

POSTGRADUATE OPPORTUNITIES

We print below information regarding 2 opportunities for graduate education, without cost, open to all physicians, but unfortunately reasonably convenient only to those who reside in or near Philadelphia. Obviously, similar advantages might be extended on an attractive scale to physicians in or near Harrisburg, or Pittsburgh, or wherever hospital facilities plus the will to share such with those ambitious to learn may abide in the temperament of those who should plan and present the teaching material.

(Opportunity No. 1)

A Day's Review in Pediatrics

The Committee on Pediatric Education of The Medical Society of the State of Pennsylvania desires to announce a series of 4 events, arranged for the fourth Friday of December, 1940, January, February, and March, 1941, in Philadelphia.

An invitation to attend these meetings is extended to any member of the State Medical Society who is anxious to *spend a day* reviewing medical subjects pertaining to children.

These meetings will be held regularly regardless of whether or not there are any out-of-town visitors present. There is room for more and all will be welcome.

A DAY'S PROGRAM

12:30 p. m.—Children's Hospital, 18th and Bainbridge Sts.; a clinicopathologic conference; 1 hour.

4:30 p.m.—County Medical Society Building, 21st and Spruce Sts.; neonatal and stillbirth committees, meeting to review selected cases that occurred in Philadelphia during the last several months; 1 hour.

7:00 p.m.—St. Christopher's Hospital for Children, Lawrence and Huntington Sts.; neuropsychiatric staff conference; 1 hour.

9:00 p.m.—Pennsylvania Hospital, 8th and Spruce

Sts.; an Abstract Club meeting of the pediatric staff; 1 to 2 hours.

Do not wait for further invitation, but please plan to attend on Dec. 27, Jan. 24, Feb. 28, and Mar. 28.

Ralph M. Tyson, M.D., *Chairman*,
COMMITTEE ON PEDIATRIC EDUCATION,
255 S. 17th St., Philadelphia, Pa.

(Opportunity No. 2)

Outline of Course of Study in Psychiatry for Resident Staff of Philadelphia State Hospital

<i>Subject</i>	<i>Instructor</i>	<i>Day and Hour</i>	<i>Duration Dates Inclusive</i>	<i>Total Hours</i>
Neuro-anatomy (1)	Dr. A. W. Snedeker	Thurs. evenings 8 to 11	10/3/40 to 4/10/41	75
Neurophysiology (2)	Dr. S. A. Zeritsky	Thurs. evenings 7 to 8	10/3/40 to 4/10/41	25
Psychobiology (3)	Dr. A. W. Snedeker and Mr. L. L. Burch	Tuesdays 4 to 5	11/5/40 to 5/6/41	25
Psychopathology	Dr. F. L. Sielke	Thursdays 4 to 5	9/30/40 to 12/19/40	12
Clinical neurology (4)	Dr. J. Meshken	Mondays 4 to 5	9/30/40 to 12/9/40	12
Clinical psychiatry (5)	Hospital staff	Wednesdays 4 to 5	10/3/40 to 5/28/41	33
Neuropathology	Dr. F. H. Lewy	Monday evenings 7:30 to 9:30	12/2/40 to 2/17/41	20
Neuroradiology	Dr. P. J. Hodes	Monday evenings 7:30 to 9:30	2/24/41 to 4/28/41	20

- (1) Laboratory periods of 3 hours taken up with brain modeling (Meyer), embryology, and comparative anatomy.
- (2) To accompany course in neuro-anatomy, and will consist of a consideration of functions of structures under discussion and of clinical syndromes of disordered function.
- (3) To include student's study of his own personality—collateral reading.
- (4) To be accompanied by bedside instruction and clinical teaching on the wards.
- (5) To be amplified by clinical assignments and instruction in staff conference—collateral reading.

Attendance at staff conferences.

One round table each month from October to May.

Book and magazine club.

Assignments to report on related medical meetings in Philadelphia.

WHERE DO YOU STAND?

Evidence of proper reaction to the organized medical profession's own endeavor to bring about a complete registration of available professional service for all phases of national defense at the end of more than 2 months remains entirely negative for at least 42 per cent of the 13,422 legally licensed physicians of Pennsylvania. To each was mailed a medical preparedness questionnaire from the office of the American Medical Association early in August, 1940.

The Medical Preparedness Committee of Pennsylvania as a follow-up to this original endeavor by the A. M. A. has by every reasonable means attempted to stimulate a nearer approach to a total response.

The last endeavor is recorded in the appended communication which up to Nov. 20 had been forwarded to the president, the secretary, the editor, and the chairman of the preparedness committee of every component county medical society in the state. In reading this appended communication it will be found that the percentages quoted are of significance, indicating most prominently 2 items: (1) that the hoped for response to the questionnaire has been considerably heavier from the members of the medical societies than from nonmembers; (2) that a considerable percentage of those who have failed to respond—members and nonmembers alike—have probably in their own reasoning

(Continued on page 371.)

Percentages by Counties in Which, as of Oct. 21, Pennsylvania Physicians Had Returned the American Medical Association Medical Preparedness Questionnaire

County Society	Total Questionnaires Mailed		Chairman of Medical Preparedness Committee	Percentages of A. M. A. Questionnaires Returned	
	Members	Nonmembers		Members	Nonmembers
Adams	32	2	James B. Goyne, Gettysburg	72%	50%
Allegheny	1515	627	James D. Heard, Pittsburgh	66%	49%
Armstrong	51	10	Hugh I. Stitt, Kittanning	59%	50%
Beaver	109	38	J. Willard Smith, Beaver Falls	75%	26%
Bedford	18	3	John W. Nycum, Everett	50%	33%
Berks	212	95	Ralph Hill, Wernersville	70%	55%
Blair	117	30	John D. Hogue, Altoona	68%	23%
Bradford	41	31	John M. Higgins, Sayre	83%	42%
Bucks	86	26	Allen H. Moore, Doylestown	66%	42%
Butler	67	24	Ephraim E. Campbell, Butler	64%	42%
Cambria	170	25	Bernard J. McCloskey, Johnstown ..	63%	20%
Carbon	37	6	Albert N. Redelin, Nesquehoning	59%	17%
Centre	31	5	Peter H. Dale, State College	84%	20%
Chester	110	47	William Limberger, West Chester ...	67%	55%
Clarion	26	5	Donald W. Briceland, Rimersburg ...	65%	20%
Clearfield	60	5	William C. Browne, Curwensville ...	72%	80%
Clinton	20	...	James L. Lubrecht, Lock Haven	55%	(no non- members)
Columbia	40	6	Edward L. Davis, Berwick	65%	33%
Crawford	62	9	William E. Hyskell, Meadville	74%	33%
Cumberland	41	9	Richard R. Spahr, Mechanicsburg	66%	44%
Dauphin	234	46	Richard J. Miller, Harrisburg	67%	43%
Delaware	238	84	John B. Klopp, Chester	58%	49%
Elk	30	3	Robert C. Simpson, Ridgway	83%	33%
Erie	177	35	Arthur G. Davis, Erie	69%	43%
Fayette	122	30	Samuel A. Baltz, Uniontown	80%	40%
Franklin	68	15	Frank J. Corbett, Fayetteville	72%	20%
Greene	31	4	A. Carl Walker, Waynesburg	55%	0%
Huntingdon	27	7	Frederic H. Steele, Huntingdon	78%	43%
Indiana	53	11	Medus M. Davis, Indiana	55%	64%
Jefferson	46	6	Guy M. Musser, Punxsutawney	83%	33%
Juniata	7	...	Frank G. Wagenseller, Richfield	86%	(no non- members)
Lackawanna	275	63	Frederick J. Bishop, Scranton	53%	38%
Lancaster	214	47	Samuel W. Miller, Lancaster	70%	43%
Lawrence	77	16	Jesse R. Cooper, New Castle	65%	38%
Lebanon	43	12	Charles E. Gardiner, Lebanon	72%	25%
Lehigh	170	60	Willard C. Masonheimer, Allentown ..	65%	50%
Luzerne	341	93	Joseph P. Dougherty, Ashley	68%	49%
Lycoming	118	18	Wilfred W. Wilcox, Montoursville ..	70%	44%
McKean	50	14	William G. Hogan, Bradford	74%	43%
Mercer	93	13	Harry W. Millikin, Sharon	65%	62%
Mifflin	33	9	Raymond R. Decker, Lewistown	64%	44%
Monroe	30	10	Charles S. Flagler, Stroudsburg	86%	30%
Montgomery	245	174	George W. Miller, Norristown	64%	42%
Montour	38	23	Harold L. Foss, Danville	89%	83%
Northampton	156	46	George U. Pillmore, Easton	53%	41%
Northumberland ..	81	15	Robert B. McCay, Sunbury	60%	7%
Perry	16	1	William H. Gelnett, Millerstown	69%	0%
Philadelphia	2459	1803	Co-Chairmen—Rudolph Bloom and James B. Mason, Philadelphia	67%	51%
Potter	16	2	Bernard S. Bretherick, Roulette	63%	50%
Schuylkill	173	36	Thomas J. McGurl, Minersville	69%	36%
Somerset	40	8	Frank W. White, Rockwood	58%	38%
Susquehanna	17	6	Robert B. Mackey, Montrose	82%	67%
Tioga	25	7	Harry Williams, Elkland	60%	43%
Venango	53	10	Franklin P. Phillips, Franklin	57%	40%
Warren	53	4	Hilding A. Bengs, Warren	62%	25%
Washington	140	50	William J. L. McCullough, Washington	70%	36%
Wayne-Pike	28	4	Louis B. Nielsen, Honesdale	71%	50%
Westmoreland	192	58	Gervase F. Nealon, Latrobe	57%	43%
Wyoming	16	1	T. Oliver Williams, Tunkhannock ...	75%	0%
York	163	26	J. Fletcher Lutz, Glen Rock	68%	38%

Committee on Medical Preparedness

County Medical Society

Please type or print.
Check where boxes
occur.

1. Full name
2. Address
3. Race Sex Year of birth
4. Marital Status No. dependents under 18 Over 18
5. Citizenship Where born
6. Graduate of what Medical School
7. When licensed in Pennsylvania Member of what County Society
8. Hospital staff appointments
.....
.....
9. Do you hold any appointment requiring full time?
If so, what?
10. Type practice—General ☐ Special
Certified
11. Member of what special medical societies
12. Method of practice—Individual ☐ Partnership ☐ Group ☐ Intern ☐ Resident ☐
Other ☐ Retired ☐ Not in practice ☐
.....
13. What military service have you had?
.....
.....
14. If not attached to any service, would you volunteer for any of the following:
 1. Federal Service (Army) ☐ 2. National Guard ☐ 3. State Guard ☐
(Duty within state)
 - (Navy) ☐
 4. Volunteer health work ☐ full time ☐ part time ☐
 5. Local defense work—
a. Examining boards ☐ part time ☐
b. Emergency hospital squads for local catastrophes or emergencies ☐
15. If you are not selected for any of the above, will you co-operate with your county medical society in caring for the civilian medical needs of your own and neighboring communities under such regulations as your county medical society adopts?
.....
16. What service do you feel yourself best qualified to perform?
.....
17. Have you any physical defect that you definitely know would unfit you for military service?
.....

(Signature)

(Please use enclosed return envelope)

(Continued from page 368.)

unwisely eliminated themselves because of advanced years.

The committee sincerely hopes that the next time this subject is referred to in the JOURNAL it will be possible to report a considerable increase in responses. To that end the committee requests local solicitation by all who read these lines. Kindly, through personal endeavor, reassure all physicians, regardless of age, that by returning the completed questionnaire they not only properly relate themselves to this current survey but they also contribute greatly to the respect in which the members of our profession will be held by other citizens. To complete the A. M. A. questionnaire and thereafter to hold one's self in readiness for distant or neighborhood service is but a patriotic duty common to all.

To: PRESIDENT, PRESIDENT-ELECT,
SECRETARY, EDITOR, CHAIRMAN,
COMMITTEE ON MEDICAL PREPAREDNESS,
COUNTY MEDICAL SOCIETY.

Our committee now has the names and addresses of physicians of Pennsylvania—county society members and nonmembers—who have not completed and returned to 535 N. Dearborn Street, Chicago, the Preparedness questionnaire distributed by the A. M. A. early in August to 170,000 physicians throughout the United States, of whom 13,422 are in Pennsylvania.

From Pennsylvania the return of the completed questionnaire from members of the county medical societies has been 72 per cent; from nonmembers, 44 per cent. (Forty-five per cent of physicians who failed to return this questionnaire are over 60 years of age—useless for military service, but invaluable for community service.)

From _____ County the return of the completed questionnaire to the American Medical Association has been: from county society members, 67 per cent, from nonmembers, 43 per cent.

For the information of those who have not completed and returned their A. M. A. questionnaire, we believe you can do no better than quote the following from a communication received from the National Preparedness Committee:

"That the National Defense Commission is determined to have access to such information regarding all licensed doctors of medicine, regardless of age or medical society membership, is illustrated by the instructions to the various state medical preparedness committees; namely, to furnish what information the committee can concerning each physician who has failed to complete and return the questionnaire to the A. M. A."

Ask Chairman _____ of your Committee on Medical Preparedness for an A. M. A. questionnaire or write to the undersigned or to the A. M. A. This simple but important patriotic duty should be attended to at once!

This A. M. A. questionnaire should not be confused with the preparedness questionnaire* mailed at the request of the following county medical societies to

members and nonmembers alike subsequent to the time the A. M. A. questionnaire was distributed from Chicago:

Adams, Allegheny,† Beaver, Blair, Bradford, Cambria, Carbon, Centre, Chester, Columbia, Crawford, Cumberland,† Dauphin, Delaware,† Elk, Juniata, Lehigh, Lycoming, McKean, Mercer, Mifflin, Northampton, Perry, Philadelphia,† Potter, Venango, Wayne-Pike, Wyoming, Somerset, Washington, Indiana.

PENNSYLVANIA COMMITTEE ON MEDICAL PREPAREDNESS,

Francis F. Borzell, M.D.,
Walter F. Donaldson, M.D.,
Harvey B. Stone, M.D., ex officio, rep.
Third Corps Area,
Charles H. Henninger, M.D., *Chairman*,
Jenkins Arcade, Pittsburgh.

Nov. 15, 1940.

GRATEFUL ACKNOWLEDGMENT

To the President and Board of Directors of the Philadelphia County Medical Society.

By unanimous vote of the House of Delegates of The Medical Society of the State of Pennsylvania taken on Wednesday, Oct. 2, 1940, I have been instructed to express to your society the appreciation and gratitude of the State Medical Society for the great contribution of your official representatives and membership to the success of our ninetieth annual session held in your city Sept. 30 to Oct. 3.

While it is not customary in such formal communications to single out any one member contributing to such success, I should nevertheless like, in concluding this acknowledgment, to express personally, with Messrs. Perry and Stewart, gratitude not to be measured in words to Drs. Charles L. Brown, Fred D. Weidman, Jefferson H. Clark, J. Hart Toland, Rufus S. Reeves, and Frederic H. Leavitt, not failing to mention also your executive secretary, Mr. William F. Irwin. Representing our State Society's Board of Trustees, we worked together with most of these gentlemen for 10 months preceding the convention and found their co-operation at all times not only complete but finished.

In recent years since the State Medical Society has taken over the total financing of its annual conventions, including all social features, such collaboration has become an essential.

WALTER F. DONALDSON, *Secretary*.

Oct. 18, 1940.

CONTRIBUTIONS TO MEDICAL BENEVOLENCE FUND

The Committee on Medical Benevolence makes grateful acknowledgment of contributions to the Medical Benevolence Fund from woman's auxiliaries to the following county medical societies:

Woman's Auxiliary, Bradford County Medical Society (additional)	\$9.00
Total contributions since 1940 report.....	\$529.00

† Mailed their own.

* See page 370.

PENNSYLVANIA HEALTH INSTITUTE

At the May, 1940, meeting of the Board of Trustees of our State Medical Society the board approved a request from John J. Shaw, M.D., Secretary of Health of Pennsylvania, that the president, the president-elect, and the secretary of The Medical Society of the State of Pennsylvania be delegated to serve on a committee to collaborate with the Secretary of Health in the development of a program for a health institute to be held in the Penn-Harris Hotel, Harrisburg, early in the year 1941.

Other organizations and groups joining in this forward-looking movement include the Pennsylvania Departments of Public Instruction, Public Assistance, and Welfare; the state dental and nursing associations; the U. S. Children's Bureau and the U. S. Public Health Service.

A review of the proposed program throughout the 3 days—Jan. 8, 9, and 10—will impress the reader with the breadth of vision of the Department of Health in the preparation of a program covering so many phases of so important a subject. It is hoped that as many persons as possible representing the private practice of medicine will attend at least one or more of the programs, which include speakers from all the departments and organizations herein mentioned, as well as other similar organizations and a number of universities. All persons who are interested in public health or actively engaged in the work are invited to attend the various meetings. The registration fee is \$1.00.

Pennsylvania Health Institute

SCHEDULE OF LECTURES

Wednesday, January 8, 1941

Morning Session

Presiding—Alexander H. Stewart, M.D., Deputy Secretary of Health, Commonwealth of Pennsylvania.

10:00—"The Role of the Department of Health, Organized Medicine, Local Departments of Health, and the Voluntary Agencies in the Modern Health Plan."
John J. Shaw, M.D., Secretary of Health, Commonwealth of Pennsylvania.

10:30—"Public Health Aspects of the Care of the Indigent."

Howard L. Russell, Secretary of Public Assistance, Commonwealth of Pennsylvania.

10:45—"Organized Medicine in a Community Health Program."

Francis F. Borzell, M.D., president, The Medical Society of the State of Pennsylvania.

11:15—"The Federal Government and Community Health."

E. Richard Coffey, M.D., surgeon, assistant chief, Domestic Quarantine Division, U. S. Public Health Service.

11:45—Hour of discussion.

Discussion leader—Walter F. Donaldson, M.D., secretary, The Medical Society of the State of Pennsylvania.

Afternoon Session

Presiding—W. J. Robinson, D.D.S., president, Pennsylvania State Dental Society.

2:00—"Is Dental Caries a Public Health Problem?"

Frank C. Cady, D.D.S., senior dental surgeon, dental consultant, U. S. Public Health Service.

2:30—"The Voluntary Agency in a Community Health Program."

Arthur M. Dewees, executive secretary, Pennsylvania Tuberculosis Society.

3:00—"The Role of the Nurse in the Health and Welfare Field."

Sophie C. Nelson, R.N., director, Visiting Nurse Service, John Hancock Mutual Life Insurance Company.

3:30—"The Role of the Hospital in a Community Health Program."

Lewis N. Clark, managing director, The Germantown Dispensary and Hospital, Philadelphia.

4:00—Hour of discussion.

Discussion leader—Alice M. O'Halloran, R.N., director, Bureau of Public Health Nursing, Pennsylvania Department of Health.

Discussants—Linwood C. Grace, D.D.S., chief of Dental Division, Pennsylvania Department of Health, and Abraham Oseroff, director, The Montefiore Hospital, Pittsburgh.

Evening Session

Presiding—T. Lyle Hazlett, M.D., medical director, Westinghouse Electric and Manufacturing Company.

8:00—"The Public Health Aspects of Industrial Hygiene and the Part of the Health Departments in the Problem."

LeRoy U. Gardner, M.D., director, Saranac Laboratory.

8:30—"The Role of the Employer in Industrial Hygiene."

L. B. F. Raycroft, The Electric Storage Battery Company, chairman of the Industrial Bureau of the Philadelphia Chamber of Commerce.

9:00—"Vocational Rehabilitation."

Mark M. Walter, director of vocational rehabilitation, Bureau of Rehabilitation, Pennsylvania Department of Labor and Industry.

9:30—Hour of discussion.

Discussion leader—William B. Fulton, M.D., director, Bureau of Industrial Hygiene, Pennsylvania Department of Health.

Discussants—Charles-Francis Long, M.D., chairman, Committee on Industrial Health, The Medical Society of the State of Pennsylvania, and Theodore Hatch, associate professor of industrial hygiene, Department of Public Health and Preventive Medicine, University of Pennsylvania.

Thursday, January 9

Morning Session

Presiding—George Cobb, executive secretary, Pennsylvania Society for Crippled Children.

9:30—"The Crippled Child."

James R. Martin, M.D., professor of orthopedic

surgery, Jefferson Medical College of Philadelphia.

10:00—"Relationship of the Tuberculosis Program to the School Child."

General Charles R. Reynolds, director, Bureau of Tuberculosis, Pennsylvania Department of Health.

10:30—"Nutrition and the Health of Mothers and Children."

Marjorie M. Heseltine, M.A., consultant in nutrition, U. S. Department of Labor Children's Bureau.

11:00—"Public Health Responsibility of the Local community."

Ira V. Hiscock, Sc.D., professor of public health, Yale University.

11:30—Hour of discussion.

Discussion leader—Wm. W. McFarland, M.D., executive director, General Health Council, Pittsburgh.

Afternoon Session

Presiding—William S. McEllroy, M.D., dean of the School of Medicine of the University of Pittsburgh.

2:00—"Child Health."

Ralph M. Tyson, M.D., pediatrician, Pennsylvania Hospital, medical chief and co-director of the Department of Preventive Medicine, St. Christopher's Hospital for Children, Philadelphia, chairman of the Committee on Pediatric Education, The Medical Society of the State of Pennsylvania.

2:30—"A Well-Rounded Maternal and Child Health Program."

Paul Dodds, M.D., director, Bureau of Maternal and Child Health, Pennsylvania Department of Health.

3:00—"Relationship of the Venereal Disease Program to the Community and School."

Raymond A. Vonderlehr, M.D., assistant surgeon general, Division of Venereal Diseases, U. S. Public Health Service.

3:30—"The Organization of a Health Education Program."

Mary P. Connolly, director, Division of Health Education, Detroit Department of Health.

4:00—Hour of discussion.

Discussion leader—Philip F. Williams, M.D., professor of obstetrics and gynecology, University of Pennsylvania.

Discussants—Edgar S. Everhart, M.D., chief of Division of Syphilis and Genito-infectious Diseases, Pennsylvania Department of Health, and Robert W. Bernhardt, executive secretary, Delaware County Tuberculosis and Health Association.

7:00—Banquet.

Greetings—Honorable Arthur H. James, Governor of the Commonwealth of Pennsylvania.

Howard E. Milliken, M.D., Mayor of the City of Harrisburg.

Addresses—"What the Public is Thinking About Health." William W. Bauer, M.D., director, Bureau of Health Education, American Medical Association.

"Health is News." John M. McCullough, *The Philadelphia Inquirer*.

"A Lifetime Spent in Public Health." Arthur Thomas McCormack, M.D., State Health Commissioner, Kentucky.

Friday, January 10

Morning Session

Presiding—Dr. Francis B. Haas, Superintendent of Public Instruction, Commonwealth of Pennsylvania.

9:30—"The Doctor Looks at the Schools."

A. Parker Hitchens, M.D., professor of public health and preventive medicine, University of Pennsylvania.

10:15—"The Old and the New in Health Education."

C. E. Turner, Sc.D., Dr. P.H., professor of biology and public health, Massachusetts Institute of Technology.

11:00—"Educational Adjustments to a Modern Health Program."

Dr. Ben G. Graham, superintendent of Pittsburgh public schools.

11:30—Hour of discussion.

Discussion leader—Dr. Wynn Fredericks, chief of health and physical education, Pennsylvania Department of Instruction.

Discussant—Dr. Levi Gilbert, superintendent of Altoona public schools.

Luncheon

12:30 p. m.

Address—"American Medicine Organizes for National Defense."

Nathan B. Van Etten, M.D., president, American Medical Association.

Afternoon Session

Presiding—William C. Sandy, M.D., director, Bureau of Mental Health, Pennsylvania Department of Welfare.

2:00—"The Control of Communicable Diseases in the Schools."

J. Moore Campbell, M.D., director, Bureau of Health Conservation, Pennsylvania Department of Health.

2:30—"The Social Component in Heart Disease with Special Reference to the Rheumatic Heart."

William D. Stroud, M.D., professor of cardiology, University of Pennsylvania Graduate School of Medicine.

3:00—"The Deficient and Mentally Ill Child."

Herbert C. Woolley, M.D., superintendent, Philadelphia State Hospital.

3:30—Hour of discussion.

Discussion leader—Paul A. Keeney, M.D., assistant director, Bureau of Health Conservation, Pennsylvania Department of Health.

Discussant—Martha Leslie, executive secretary, Child Health Division, General Health Council, Pittsburgh.

Motion pictures will be shown daily from 1 to 6 p. m.

COMMITTEE REPORT ON WOMEN'S FIELD ARMY ACTIVITIES

To the President and Board of Trustees of The Medical Society of the State of Pennsylvania:

Your committee authorized by the board to look into the activity of the Women's Field Army of the American Society for the Control of Cancer in its work in

Pennsylvania has conducted its survey and wishes to report as follows:

A questionnaire was sent to the president and the secretary of each of our component county medical societies, also to the chairman of the cancer committee of each such society if there was a record of such committee, asking them to answer the following questions:

1. Has the Women's Field Army of the American Society for the Control of Cancer, Pennsylvania division, been active in your county?

2. What co-operative relations exist between the county medical society and the Field Army?

3. What co-operative endeavor is exercised by the county medical society in connection with the general activities of the Field Army?

4. Is your county society representative kept informed as to local sources of income, as well as local expenditures of the Field Army?

5. Are your officers frequently called in conference with Field Army officers as to educational programs for the public, and, if so, by whom are programs finally arranged?

6. Please offer suggestions calculated to improve the general effectiveness of cancer control educational efforts as now directed by your county medical society and the Women's Field Army.

To this questionnaire we received replies from 59 county societies, Armstrong and Monroe counties not replying. The result of the questionnaire showed that in answer to question No. 1 (activity), 30 replied yes, 29 no. Question No. 2 (co-operation), 35 replied yes, 34 no. Question No. 3 (co-operative endeavor), 22 yes, 37 no. Question No. 4 (information), 22 yes, 37 no. Question No. 5 (officers consulted), 21 yes, 38 no. Question No. 6 (suggestions), 22 yes, 36 no.

The result of our survey seems to show that where the Women's Field Army is well organized in the county it is generally working in co-operation with the proper officers of the component county medical society.

In an endeavor to adjust differences which had appeared in the questionnaire and in private conversations, the chairman had a meeting with Mrs. Gustav Ketterer, commander of the Women's Field Army in Pennsylvania, and Mrs. Thomas Hart, local commander in Philadelphia County, at which time there was a very frank and free discussion of the critical points. The meeting was held in the office of Dr. George E. Pfahler and we agreed on the 3 essential suggestions which are contained in a letter to Mrs. Ketterer as follows:

MY DEAR MRS. KETTERER:

Relative to our conversation this afternoon, I would suggest that for the betterment of the work of the Women's Field Army you consider the following suggestions:

That the closest co-operation be always maintained between the chairman of the cancer committee of the county medical society and the officer in charge of the Field Army work in every organized county.

That the county medical society chairman be informed of the financial affairs in the county as to the collection and expenditures of funds.

That the arranging of the program for all meetings be by the local officer of the Field Army and the local county medical society cancer committee chairman.

The work of your organization can be made very valuable to the public and the medical profession, and I am sure that with complete co-operation of all those

concerned we can have an adjunct to our labors which will reflect credit to all.

(Signed) GEORGE C. YEAGER, M.D.

To which letter Mrs. Ketterer sent the following reply:

Sept. 24, 1940.

DEAR DR. YEAGER:

Your letter of Sept. 17 relative to the work of the Women's Field Army has just been received. We are indeed grateful for your valued suggestions and assure you that we will use every means to follow them through.

I wish to state that we have always endeavored to have the closest co-operation between the chairman of the cancer committee of the county medical society and our captain in charge of the Field Army work in each organized county. These are definite instructions which go to every county captain—and also to lieutenants—when they are arranging meetings, as the Field Army would not have progressed as far as it has had it not been for the splendid co-operation of many of the county medical societies.

In regard to your second suggestion, "that the county medical society chairman be informed of the financial affairs in the county as to the collection and expenditure of funds," I am sending a letter to each county captain, copy of which is enclosed, asking her to submit to the chairman of the county medical society a complete report of the financial affairs in the county.

Again, in answer to your third suggestion regarding the arranging of programs, I wish to state that the instructions to each county captain have always been that she arrange such programs in co-operation with the chairman of the county cancer committee.

We hope that the Women's Field Army may be of continued value to the public and the medical profession in the fight against cancer; therefore, I assure you of our complete co-operation in every way.

Thank you for your kindly interest, valued suggestions, and good wishes.

(Signed) MRS. GUSTAV KETTERER.

Enclosed was a copy of Mrs. Ketterer's communication to each county captain regarding our suggestions:

Sept. 24, 1940.

DEAR COUNTY CAPTAIN:

We are indeed grateful for your volunteer services in helping to promote the program of the Women's Field Army of the American Society for the Control of Cancer. This is an important undertaking, and we are hoping through our efforts to assist the physicians in their great fight against this dread disease.

It is most important, as I have written to you before, that each captain co-operate with the chairman of the cancer committee of your county medical society, who, of course, is already a member of your county advisory board. Also, will you kindly send to this chairman a report of the financial affairs in your county, as to the collection and expenditure of funds. And I again emphasize the importance of arranging programs for all meetings in co-operation with your chairman of the county medical society cancer committee. We realize that the work of our organization is very valuable to the public and the medical profession, but it is essential that there be complete co-operation of all those concerned.

Will you kindly send to me a copy of the financial report which you send to your county cancer committee chairman?

It is the opinion of the national society that we should not lose sight of our broad general principle, which is to continue to educate the lay public regarding the desirability of the early diagnosis and adequate treatment of cancer. Naturally, the society desires also to aid and co-operate in the development of diagnostic and treatment centers. In this connection, however, the greatest care should be exercised to make sure that the county cancer committee approves and administers the program.

I do hope that you will arrange a county meeting some time between now and Jan. 1 if possible. Samples of the new literature will be sent to your vice-commander some time in October, as soon as I receive them from the national office.

Again I thank you for the splendid work you have done, and shall look forward to seeing you some time this fall or winter. My deep appreciation and kindest regards. (Signed)

On Sept. 23 the following letter was received from Dr. C. C. Little, managing director of the American Society for the Control of Cancer, whose headquarters are in New York City:

DEAR DR. YEAGER:

I have just received through Mrs. Illig a copy of the notes taken at the meeting held in Dr. Pfahler's office on Sept. 17. I wanted to write you at once and tell you how helpful it is to have your constructive interest in this program and how hopeful I am that your continued activity will help us to make progress in organizing the state. We all realize how busy you are, and that there is a great deal left to be done, but we hope that you will find time to help us to do it.

Your suggestions concerning ways and means of obtaining co-operation from the medical profession for the work of the Field Army are most valuable. So, also, are your 2 major suggestions concerning close co-operation between the county medical societies, the cancer control committee, and the Women's Field Army, and also the type of accounting to the chairman of the cancer control committee of each county which you thought would be desirable.

I am sure that you will find all of us willing and anxious to follow those suggestions and we shall certainly count on you to help us not only this year but in the future to realize both of them. I know that you will find Mrs. Ketterer, the Pennsylvania commander of the Women's Field Army, heart and soul in her work and very anxious to do what she can to understand your point of view and get you the information which you really want. (Signed) C. C. LITTLE.

As a result of the questionnaire, the letters pledging co-operation, and the evident spirit which is shown by the leading officers of the organization, we are convinced that the relations between the Women's Field Army and our component medical societies, together with our state medical society cancer commission, will be happier in the future than they have been in the past and that this organization can become a very useful adjunct to our own cancer control commission in the furtherance of its work.

Respectfully submitted,

GEORGE C. YEAGER, *Chairman*,
PARK A. DECKARD,
CLOY G. BRUMBAUGH.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

New Members (57)

BRADFORD COUNTY

Paul H. Harmon Sayre

CAMBRIA COUNTY

Robert R. Geer Johnstown
Edward B. Webb Bellwood

DELAWARE COUNTY

Rolfe M. Harvey Media
John A. McCormick Drexel Hill

ERIE COUNTY

August H. Ehrler North East
Anthony F. Kaminsky Erie

FAYETTE COUNTY

William Metzger McClellandtown
Edwin S. Peters Masontown

LEBANON COUNTY

Adam L. Hauer Lebanon
Richard D. Schreiber "

MERCER COUNTY

Jack C. Reed Sharon

MONTGOMERY COUNTY

Frederick M. Cornelius Souderton
Arthur J. Denman Narberth
Andrew A. Doering Huntingdon Valley

NORTHAMPTON COUNTY

Frank Biro, Jr. Bethlehem
Clarence H. Cole Easton
James J. Quiney, Jr. "

PHILADELPHIA COUNTY

John H. Allan	Kenneth A. Koerber
Joseph P. Belber	Isadore Kotzin
Gustavus C. Bird, Jr.	Charles H. Kravitz
John P. Cossa, Jr.	Robert J. Kressler
Salvatore Cucinotta	Thomas E. Machella
Samuel Dershaw	Valentine R. Manning, Jr.
Anthony E. De Tullio	Richard L. Masland
Garfield G. Duncan	James D. Nelson
Katharine O'S. Elsom	Golda R. Nobel
Margaret P. H. Foulger	Martin Packman
Jacob J. Freedman	Harry Pariser
Isadore W. Ginsburg	William H. Perloff
David H. Goodman	Jacob Prager
Arnoldus Goudsmit	Rosemary J. Renzulli
Clare C. Hodge	Henry P. Royster
Louis D. Hoffstein	William M. Sylvis
Harold F. Hughes	Rosalind S. Thorner
Andrew M. Jamison, Jr.	Robert H. Trueman
Thomas E. Jones	Louis Udell

POTTER COUNTY

Clarence E. Baxter Ulysses

Reinstated Members (51), Transfers, Resignations (1), Deaths (20)

ALLEGHENY COUNTY: *Reinstated Members*—John E. Bryson, Morton McCahill, Frederick W. Volkwein. *Resignation*—Bernard Goodman, Mayview. *Deaths*—Harry L. Baer, Pittsburgh (Univ. Pgh. '17), Oct. 3

aged 47; George H. Bolling, Pittsburgh (Howard Univ. '04), Oct. 3, aged 68.

BEAVER COUNTY: *Reinstated Member*—Floyd C. Atwell.

BLAIR COUNTY: *Reinstated Members*—Charles E. Shope, John G. Striegel.

CARBON COUNTY: *Death*—Albert M. Sittler, Bowmanstown (Jeff. Med. Coll. '86), Oct. 2, aged 76.

CLEARFIELD COUNTY: *Death*—Alex. Park Boag, Clearfield (Temple Univ. '34), Oct. 4, aged 32.

DAUPHIN COUNTY: *Reinstated Member*—Earl H. Grim. *Removal*—Charles R. Yhost from Philadelphia to Scranton. *Death*—Oscar B. Feldser, Harrisburg (Jeff. Med. Coll. '33), Sept. 5, aged 43.

DELAWARE COUNTY: *Reinstated Member*—Theodore C. Geary. *Deaths*—Ellen E. Brown, Graterford (Woman's Med. Coll. '81), July 29, aged 92; Hugh Lenox H. Dick, Darby (Jeff. Med. Coll. '09), Sept. 11, aged 57.

ERIE COUNTY: *Reinstated Member*—George T. Barrett. *Transfer*—Ray D. McCombs, Erie, from Susquehanna County Society. *Death*—George H. Clapp, Erie (Jeff. Med. Coll. '07), Aug. 21, aged 57.

FAYETTE COUNTY: *Reinstated Member*—Herbert Lund.

INDIANA COUNTY: *Transfer*—Edward M. Fitzgerald, Pittsburgh, to Allegheny County Society.

LACKAWANNA COUNTY: *Reinstated Members*—Vincent W. Banick, Michael J. Noone, Stephen S. Watson. *Deaths*—Walter W. Propst, Scranton (Univ. Pa. '16), Oct. 11, aged 55; Gisela von Poswick, Scranton (Woman's Med. Coll. '11), Oct. 2, aged 65.

LUZERNE COUNTY: *Reinstated Members*—William F. Connell, August G. Hinrichs, Morgan E. Griffith, James J. McMahon, Robert H. Stroh.

LYCOMING COUNTY: *Death*—Charles E. Heller, Williamsport (Jeff. Med. Coll. '90), Sept. 24, aged 75.

McKEAN COUNTY: *Reinstated Member*—Warren E. Hartman. *Death*—Philip F. Hickey, Smethport (St. Louis Univ. '33), Sept. 19, aged 31.

MERCER COUNTY: *Reinstated Member*—Edward N. Hagin.

MONTGOMERY COUNTY: *Reinstated Member*—Robert S. Heffner. *Deaths*—George M. Irwin, Lansdale (Jeff. Med. Coll. '33), Oct. 9, aged 33; Francis T. Krusen, Norristown (Harvard Univ. '13), Sept. 30, aged 51.

NORTHAMPTON COUNTY: *Death*—William L. Estes, Sr., Friedensville (N. Y. Univ. Med. Coll. '78), Oct. 20, aged 85.

PHILADELPHIA COUNTY: *Reinstated Members*—Abraham Bernstein, Harry Cherken, George W. Chernoff, Joseph A. Coscarello, Abraham E. Colcher, John L. Dorris, James N. Edmunds, George F. Enoch, George E. Firth, Adolph H. Friedman, Bruce L. Fleming, Horace J. Forman, Jr., Morris Gallen, William R. Gilmour, Alexander I. Kernish, Vernon C. Nicholson, Edwin J. Kalodner, Abraham E. Oliensis, Isidor J. Scovis, Adolph Reichman, Charles Rosenfeld, Egbert T. Scott, Bernard Tonsky, John D. Turchi, Jacob Wallen, Francis L. Zaborowski. *Transfers*—James N. Edmunds, Flourtown, to Montgomery County Society; Calvin S. Drayer, Upper Darby, from Dauphin County

Society. *Removal*—Lieut. Arthur J. Stein from Philadelphia to Fort Meade, Maryland. *Resignation*—Hershel C. Lennon, Greensboro, N. C. *Deaths*—N. Francis Brecker, Philadelphia (Med.-Chi. Coll. '07), Oct. 11, aged 56; Francois L. Hughes, Philadelphia (Hahn. Med. Coll. '98), Oct. 14, aged 63; John R. S. Martin, Philadelphia (Univ. Md. '04), Oct. 9, aged 56; Arthur C. Morgan, Philadelphia (Med.-Chi. Coll. '97), Oct. 21, aged 71; Edward J. Murphy, Philadelphia (Jeff. Med. Coll. '06), Sept. 21, aged 54.

POTTER COUNTY: *Reinstated Members*—J. Irving Bentley, Joseph W. Harshberger.

SCHUYLKILL COUNTY: *Reinstated Member*—David J. Hawk.

WASHINGTON COUNTY: *Reinstated Member*—Walter W. Schmid.

WAYNE-PIKE COUNTY: *Reinstated Member*—William L. Roberts.

Net gain in membership during October 87

LIBRARY NEWS

Members desiring to borrow reprints from the library should send 25 cents in stamps to cover the postage and part of the expense of collecting the material. Address the Librarian, 230 State St., Harrisburg, Pa. Each package may be kept for a period of 14 days.

Between Oct. 1 and Nov. 1 the following borrowers made use of the library:

Philip Gerber, Philadelphia—*Cordiae Complications of Rheumatic Fever* (21 articles).

Carl T. Houlihan, Philadelphia—*Aural Vertigo* (15 articles).

Edward Suckle, Coatesville—*Therapy of Dysmenorrhea* (17 articles).

Warren C. Phillips, Harrisburg—*High Blood Pressure* (3 articles).

Alan E. Smith, Delta—*Therapy of Varicose Veins* (19 articles).

Clara Davis, Lansdowne—*Respiratory Troch Discoses* (15 articles).

Aaron S. Cantor, Scranton—*Cardiac Complications of Rheumatic Fever* (28 articles).

Douglas A. Decker, Allentown—*Lymphogranuloma Venereum* (25 articles).

Herman Hirsh, Harrisburg—*Coronary Thrombosis* (13 articles); *Sterility* (34 articles).

Henry T. Simmonds, Shamokin—*Coronary Thrombosis* (24 articles).

Ward O. Wilson, Clearfield—*Streptococcus Viridans* (7 articles).

Howard F. Heinkel, Philadelphia—*Low Blood Pressure* (16 articles).

Nicholas Padis, Philadelphia—*Diphtheria Immunity* (17 articles).

Samuel E. Rynes, Philadelphia—*Etiology of Migraine* (23 articles).

Charles S. Barnes, Philadelphia—*History of Obstetrics* (9 articles).

Charles W. Ostrum, Philadelphia—*Pneumonia* (2 articles).

David Meranze, Philadelphia—*Blood Transfusion* (21 articles).

Benjamin F. Bowers, Barnesboro—*Socialized Medicine* (16 articles).

Norman G. Mathieson, Ben Avon—*Respiratory Tract Diseases* (27 articles).

Rutledge F. Smith, Philadelphia—*Photography* (8 articles).

Maximilian D. Bloomfield, Philadelphia—*High Blood Pressure* (30 articles).

Samuel T. Buckman, Wilkes-Barre—*Socialized Medicine* (19 articles).

Adolph S. Gabor, Bethlehem—*Acid-Base Equilibrium* (9 articles).

Adrian W. Voegelin, Philadelphia—*Backache* (16 articles).

H. Russell Fisher, Cynwyd—*Classification of Tumors* (5 articles); *Dermatomyositis* (12 articles).

William Brody, Philadelphia—*Hemorrhage of the Stomach* (13 articles).

A. Reid Leopold, Lewistown—*Public Health* (1 article).

Merritt H. Stiles, Chestnut Hill—*Hepatitis* (15 articles); *Vitamin B* (7 articles).

S. Yale Cutler, Philadelphia—*Detached Retina* (24 articles).

Charles E. Towson, Philadelphia—*Mastoiditis* (27 articles).

Raymond M. Lauer, York—*Precocious Puberty* (18 articles).

George J. Silewski, Nanticoke—*Diabetes Mellitus* (30 articles).

George A. McCartney, Pittsburgh—*Achondroplasia* (10 articles).

Beulah Sundell, York—*Progress of Medicine* (37 articles).

Herbert E. Heim, Harrisburg—*Muscular Dystrophy* (25 articles).

John V. Blady, Philadelphia—*Cancer* (20 articles).

H. Russell Fisher, Cynwyd—*Leukosarcoma* (4 articles).

Leonard Snyderman, Philadelphia—*Hemorrhage in Newborn Infants* (23 articles).

Herbert J. Levin, Donora—*Cancer* (28 articles).

Victor S. Messenger, Easton—*Pneumoconiosis* (31 articles).

George A. McCartney, Pittsburgh—*Achondroplasia* (Bibliography).

Thomas Jackson, Jr., Philadelphia—*Cancer of the Colon* (43 articles); *Anal Fistula* (14 articles); *Therapy of Hemorrhoids* (12 articles).

Charles L. Johnston, Catawissa—*Etiology of Vertigo* (14 articles).

Howard R. Rarig, Berwick—*Perforated Peptic Ulcer* (23 articles).

Philip J. Lukens, Ambler—*Vitamin E* (8 articles).

Harriett M. Harry, State College—*Pneumonia* (22 articles).

Robert J. Dickinson, DuBois—*Pruritus Vulvae* (15 articles).

Merle R. Hoon, Pittsburgh—*Tumors of the Suprarenals* (16 articles); *Tumors of the Ovary* (16 articles); *Tumors of the Pituitary Body* (16 articles).

C. Howard Marcy, Pittsburgh—*Boeck's Sarcoid* (15 articles).

Herbert P. Lenten, Carlisle—*Venereal Diseases* (23 articles).

Arthur H. Gross, Bellevue—*Coronary Arteries* (16 articles).

C. Reed Gennaria, Shamokin—*Psoriasis* (16 articles); *Seborrhea* (10 articles).

Bernard Smiley, Scranton—*Vitamin B* (33 articles).

Robert W. Dunlap, Washington—*Leprosy* (14 articles).

John F. Loehle, Lebanon—*Sulfathiazole Therapy of Pneumonia* (8 articles).

H. Russell Fisher, Cynwyd—*Leukosarcoma* (Bibliography).

John N. Borbonus, Johnstown—*Sex Hormones* (8 articles).

Dudley Pomp Walker, Bethlehem—*Tetanus Immunity* (17 articles).

Sidney L. Feldstein, Harrisburg—*Dermatology* (7 articles).

Roy Truckenmiller, Freeland—*History of Syphilis* (15 articles).

Louis Weiss, Ambridge—*Gastro-intestinal Neuroses* (34 articles).

Russell E. Allyn, Mechanicsburg—*Abnormalities of the Ureters* (22 articles); *Abnormalities of the Kidneys* (33 articles).

Pennsylvania State Library, Harrisburg—*Hospitals* (1 article).

Dale C. Stahle, Harrisburg—*Pneumonia* (4 articles).

Charles A. Fitzgerald, Clarion—*Scleroderma* (16 articles).

Anthony M. Unice, Danville—*Sterility* (29 articles).

Harry W. V. Beals, Sheffield—*Endocrine Therapy in Gynecology and Obstetrics* (42 articles).

William D. Schrack, Jr., Harrisburg—*Undulant Fever* (22 articles).

Henry G. Hager, Jr., Lock Haven—*Hippel's Disease* (14 articles).

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since Sept. 26. Figures in first column indicate county society numbers; second column, State Society numbers:

Sept. 28	Montgomery	246	9034	\$10.00
	Potter	14	9035	10.00
Oct. 4	Allegheny	1486	9036	10.00
	Luzerne	345	9037	10.00
	Dauphin	230	9038	10.00
	Lackawanna	257-259	9039-9041	30.00
	Philadelphia	2371-2425	9042-9096	430.00
	Mercer	91	9097	5.00
8	Blair	113	9098	10.00
9	Schuylkill	182	9099	10.00
11	Fayette	130	9100	10.00
	Luzerne	346-347	9101-9102	20.00
	Delaware	239-241	9103-9105	20.00
	Wayne-Pike	23	9106	10.00
	Mercer	92	9107	10.00
14	Fayette	131-132	9108-9109	10.00
	Montgomery	247-249	9110-9112	15.00
17	Erie	169-171	9113-9115	30.00
18	Beaver	106	9116	10.00
	Lebanon	44-45	9117-9118	10.00
21	Luzerne	348	9119	10.00
	McKean	49	9120	10.00
22	Cambria	183-184	9121-9122	10.00
	Bradford	43	9123	5.00
25	Allegheny	1487-1488	9124-9125	20.00
28	Northumberland	78	9126	10.00
	Mercer	93	9127	5.00

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 Edward W. Bixby, Wilkes-Barre

(Each member represents his councilor district)

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(Each member represents his councilor district)

COMMITTEE ON INDUSTRIAL HEALTH

Charles-Francis Long, Philadelphia, *Chairman*

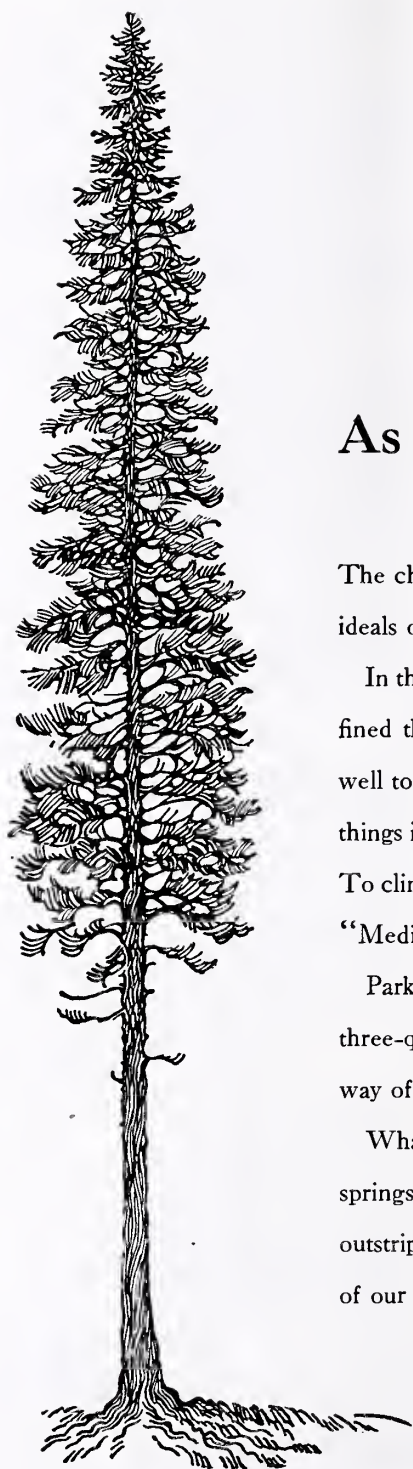
John H. Arnett, Philadelphia
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COUNTY SOCIETY REPORTS

BERKS

Oct. 8, 1940

The regular monthly meeting of the society was held in Medical Hall, Reading. Charles E. Lerch presided and introduced the guest speaker, Emil Novak, associate professor of gynecology at Johns Hopkins University Medical School, who addressed the society on "Some Practical Applications of Female Endocrinology."

Dr. Novak said in part: Endocrinology is of interest to the general practitioner, particularly that field which is applicable to functional gynecology. With the vast amount of research being carried on, and the subsequent voluminous literature, it becomes necessary to review the histology of the genital tract in order to understand and evaluate the facts presented.

During the postmenstrual period, a group of graafian follicles begins to ripen and produce the estrogenic hormones. Reaching full maturation, one follicle dominates the cycle, ruptures, and gives off its egg. After rupture, the follicle itself begins a new life cycle as the corpus luteum. This corpus continues to produce estrin but, in addition, after ovulation, produces another hormone substance, progesterone. In some cases of sterility, with normal male cells and chemistry, some women have been shown to menstruate without ovulation. If biopsy shows no progesterone effects, it is definitely known that the woman has not produced an egg.

Each hormone has characteristic effects. Estrin is the growth hormone of genital tissue; it is the normal stimulant of rhythmic contractility of the uterus and has a proliferative effect on the breast. Progesterone must be present to allow for implantation of the ovum. Progesterone produces secretory changes and is the normal inhibitor of further ovulation, tractility, and the estrogenic hormones. Dysmenorrhea may be due to imbalance between estrin and progesterone. Progesterone may be used to quiet down the uterus in dysmenorrhea, threatened miscarriage, and habitual abortion, either alone or with a small amount of thyroid in some cases. Practically all of the commercial preparations now on the market are reliable.

The pituitary extract would undoubtedly be of value if the sex-stimulating hormone partition of the pituitary gland were known. As it is, all the products are impure and crude. The chemical formula is not definitely known, but research is progressing. The pituitary has 2 sex hormones, the one concerned with maturation of the follicle (the follicle ripening gonadotropic principle), and the other is concerned with luteinization (the luteinizing gonadotropic principle).

Antuitrin S and related products do not contain the pituitary sex hormone; they are derived from pregnant urine, and not from the pituitary gland. Since their action so closely resembled pituitary hormone, they were formerly thought to be an overflow from the pituitary gland into the urine. Antuitrin S, a chorionic hormone, is actually produced by altogether different tissue, trophoblastic cells of the future chorion. One of the best gonadotropic principles, and present in tremendous

amounts, is produced from the blood serum of a pregnant mare.

Functional amenorrhea may be of 3 types: (1) hypothyroid (myxedematous), (2) hypogonadal (menopausal), and (3) hypopituitary (parapituitary). The thyroid type shows generalized obesity with a low basal metabolic rate; grains 1 to 1½ of thyroid may be administered. The amenorrhea of the hypogonadal type occurs during the normal or premature menopause. The ovary has a definite life span; and no amount of pituitary implantation or injection can activate or stimulate an ovary when its life cycle is spent. During this period there may be a 25 to 50-pound gain in body weight, with vasomotor instability and hot flashes. There is a third type of amenorrhea found in short stocky individuals where excess fat is deposited in shoulders, arms, buttocks, and hips. This is the so-called pituitary or rather hypopituitary type. The lesion is actually in the hypothalamus near the pituitary, but not in the pituitary itself. It constitutes a parapituitary disturbance, and exhibits a deficiency of water balance, producing menstrual edema with marked gain in weight during the period.

Estrogenic therapy, by inhibiting the function of the pituitary gland, is a valuable treatment in menstrual headaches. Ten thousand units (international) of estrogen are given every other day for one week before menstruation for purely temporal relief. When the ovary is deficient in the function, the pituitary is overactive; and when the ovary is overactive, the pituitary is underactive. Premenstrual tension is produced by estrogen; the treatment is progesterone.

Much has been said about the carcinogenic effect of estrogen. An enormous dosage repeated over a long time has been found to produce cancer in some animals. There is practically no evidence of its ever having produced cancer in human beings therapeutically, even in large dosage. No woman should be deprived of the beneficial effects of estrogen (if indicated) just because of this; but in case of a history of cancer in the family, it should be used sparingly. Large doses may cause uterine bleeding.

A knowledge of endocrinology, even though slight, is helpful in evaluating the literature of present research and in determining what is safe and also beneficial.

In discussion, Fred B. Nugent said that a perusal of modern literature on endocrinology leads us into a hopeless muddle, but Dr. Novak has succeeded in clarifying this a lot. Endocrine therapy is expensive to the physician and to the patient, and its use is still largely theoretical. Question: In hypothalamic disturbance, what treatment is recommended? Answer: There is no known effective treatment except the caloric reduction of body weight, ammonium chloride to combat water imbalance, and the administration of thyroid. Question: Concerning carcinogenesis—in an artificial menopause produced by irradiation, what is the present consensus of opinion as to the use of the estrogenic hormones? Answer: There is no particular danger if the hormone treatment is considered necessary.

Jeremiah B. Pearah: Is there any hope of some development in the infantile uterus? Is any therapy recommended? Answer: If the condition is associated with amenorrhea, the patient must be satisfied with sterility. In mild grades of infantile uterus, 10,000 international units of estrin may be given in the post-menstrual period and 10,000 international units of progesterone may be given in the premenstrual period. Question: Are oral estrogens of value? Answer: Yes. Question: Is stilboestrol of any real value? Answer: This is not a hormone; it is merely a chemical. It is actually more estrogenic than the hormones, and may be given orally or by hypodermic injection. This drug is mildly but not dangerously toxic in therapeutic doses, causing nausea, vomiting, and giddiness. One milligram may be given every day or every other day, orally.

Leo R. Gorman: What is the value of testosterone propionate? Answer: The effect of this drug is still not clearly established, but it is known that there is an inhibitory effect on follicular growth. This may be given to inhibit ovulation and in the treatment of functional uterine hemorrhage. It is advisable to use this drug in small dosages, 10 mg. 2 or 3 times weekly, throughout the cycle.

J. Stuart Lawrance: It has been noted in the cases with premenstrual headache that there is frequently a delay in the onset of labor. Where this headache is due to the pituitary gland disturbance, there usually is a delay, thereby indicating some complicated connection.

Heister H. Muhlenberg: This address on female endocrinology has definitely clarified a great many points which heretofore had been rather abstract.

PEARL E. HACKMAN, *Reporter.*

CHESTER

Oct. 15, 1940

The society was entertained at luncheon at the Dutch Cupboard in Thorndale by the Coatesville members.

Francis C. Grant, chief of the neurosurgical department of the University of Pennsylvania Medical School, was the guest speaker. His subject was "Head Injuries." He said that treatment of these cases is reduced to 2 basic principles: (1) preventing meningitis by proper treatment of wounds, and (2) reducing intracranial pressure if it exists. (Only 40 per cent of skull fractures have increased pressure.)

It is not the injury to the bone that counts, but rather the amount of damage done to the underlying brain. Depressed fractures without laceration of the skin are no emergencies. These may be left alone for 4 or 5 days. But compound, comminuted fractures are emergencies because of the possibility of meningitis.

Where there is a laceration of the scalp, the surrounding area should be shaved and thoroughly cleaned. Then the wound should be explored with the gloved finger to determine the presence of fracture, the nature of the fracture, and to determine whether or not cerebrospinal fluid is escaping. If there is no leak, it means that the dura is intact and there is a barrier to infection reaching the subarachnoid space. If there is a leak, it should be closed with a piece of temporal fascia. Any wound that is extensive should be drained from the most dependent part. If the bone is badly comminuted and contaminated, it should be removed; otherwise it can be put back in place with the satisfaction that one has sulfanilamide to rely on.

The escape of fluid from the ear is a favorable prognostic sign providing it is handled properly (only a

2 per cent mortality). Do not stop a leak here! Give it a sterile field and prevent it from running back into the wound. Do not syringe the external canal. Clean it out mechanically and "puddle" with a mild antiseptic solution. Apply a sterile dressing; put the patient on the side that is leaking; change the dressing every 3 hours and give sulfanilamide.

Cerebrospinal fluid escaping from the nose is quite different (a 70 per cent mortality). The treatment again is inactivity unless the leak can be stopped. This, however, is major surgery. Do not try to clean out the nose. Prevent sneezing and coughing by proper sedation, for these raise the air pressure in the sinuses and force fluid back into the wound.

Contusion vs. Hemorrhagic Expanding Lesion.—A contusion is a most common injury. There are all degrees. There may be a contra coup lesion due to the brain's bouncing off the opposite side of the skull from the point of injury.

Localized and progressive lesions are uncommon (only 5 per cent of head injuries). Here there is a middle meningeal hemorrhage and the only chance is immediate surgery. The history is rather typical with a temporary loss of consciousness, a lucid interval followed by increasing headache, nausea and vomiting, stupor, or convulsive attack. The pulse is slow, there are spreading convulsions, and sometimes paralysis of the face. The treatment is woodpecker surgery.

Chronic Subdural Hemorrhage.—This may show no symptoms for weeks or months after the injury. It is to be differentiated from tumor by the history of injury. It is a very treacherous lesion. Both sides should be trephined because it is bilateral in 25 per cent of the cases, and in 10 per cent it is on the same side as its signs.

In any case of head trauma it is important to get a complete history. How did the injury happen? What was the condition 15 minutes after the injury? All this serves as a base line so that changing signs and symptoms may be evaluated. Do no major surgery until after recovery from shock. Leave the patient alone with rest and quiet. Do not roentgen-ray for 48 hours unless there is some definite reason, such as a suspicion of a spicule of bone driven into the brain substance. A lumbar puncture may be done later to determine hemorrhage and the amount of cerebrospinal fluid pressure. It is a good rule to bring the pressure only half way back to normal regardless of how little fluid may be drawn off. Glucose may be given, but this is for treatment of shock and not for dehydration. These patients may have a moderate amount of fluid by mouth, for it does not have the slightest effect on the intracranial pressure. The pulse and respiration should be taken every 15 minutes. There should be plenty of sedation. Here drugs are better than restraint. If indicated, the lumbar puncture may be repeated in 6 to 8 hours. If the temperature goes up and continues high, the patient will die. If it goes up and comes down again, he will likely recover.

Following the address of Dr. Grant there was a regular business meeting of the society which consisted of a discussion of the report of the Executive Committee.

The following resolutions concerning hospital ward insurance were made by the Economics Committee, presented by the Executive Committee, and passed by the society:

1. That approval be given if and when all the member hospitals recognize a subscriber patient as one who is not an object of charity, but one who pays for hospital service and medical care, even though at reduced rates.

2. Disapproval of the plan until all member hospitals recognize the idea expressed above. With different rules in different hospitals it would be unfair to all concerned.

It was decided that in case physicians were called into military service the remaining physicians should preserve their practice by having it cared for in a highly ethical manner and by returning a specified percentage of the money collected to the families of absent physicians, on a monthly basis.

It was also agreed that the Medical Defense Committee be asked to make plans to co-operate with the Red Cross, American Legion, or other appropriate organizations in time of a medical emergency.

The society approved the plan of the Public Health Commission requesting the Board of Trustees of the State Society to prepare a brief containing the reasons why the legislature should appropriate 3 per cent of all relief money for medical relief.

The society was particularly fortunate in hearing a short talk by its friend and adviser, Edgar S. Buyers, of Norristown. He explained the necessity for having sent the names of 5 physicians of the county to the Governor to act on the Draft Board without waiting for action by the society as a whole. The Governor accepted the list without alteration, which was significant. The society was also advised by Dr. Buyers that this is his last year as its councilor and that he is not eligible for a succeeding term.

LOUIS S. BRINGHURST, *Reporter.*

DAUPHIN

Sept. 3, 1940

The scientific part of this meeting was conducted by the staff of the Harrisburg State Hospital and it had to do with various aspects of mental disease.

Herbert E. Heim talked on "Acute Psychotic Manifestations." He pointed out that frequently they are due to a somatic disease such as pneumonia, heart disease, etc., in which case delusions and hallucinations are frequent and indicate a disturbed physiology of the brain. The treatment of these psychoses is the treatment of the underlying disease. Lead poisoning may cause acute psychotic manifestations even before the appearance of wrist drop. The acute psychoses of alcoholism are well known and the treatment consists in improving the physiology by adequate nourishment, vitamin B₁, and electrolytes. Arteriosclerotics are frequently found to have accumulated large amounts of sedatives, particularly bromides, in the system and these may be of etiologic importance as regards the psychosis. Paraldehyde was recommended as a sedative with a high safety factor, and one which has a rapid effect and can be repeated frequently. All depressive cases are to be regarded as potential suicides and must be watched closely. Excitement stages are best controlled by paraldehyde and hydrotherapy, either baths or wet packs, of which the latter may make unnecessary the use of drugs.

Arthur O. Hecker, of Woodville, discussed "Neuropsychiatric Factors in Physical Disease." He pointed out that the new treatments of bacterial infection intro-

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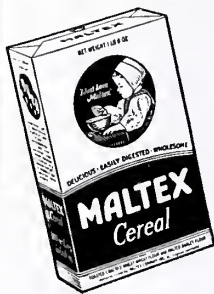
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duce psychiatric problems into internal medicine. He called attention to the importance of the nervous system in the control of physiology. For example, amenorrhea may be produced by a thyroid or pituitary deficiency, or even an emotional upset. Symptoms referable to the stomach are a most common manifestation of nervous diseases in medical practice. Peptic ulcer may be simulated by functional dyspepsia resulting from an uncomfortable life situation. Hypertension, asthma, and angina pectoris are frequently initiated or made worse by mental tension.

Howard K. Petry led the discussion and pointed out the importance of geriatrics in mental hospitals. Many of the aged who are mentally ill respond in 8 to 10 days on a régime consisting essentially of adequate nutrition, improved elimination, and vitamin B₁.

Hamblen C. Eaton requested that family physicians be alert as to the family situation of their patients since such information is of great help in the treatment of mental diseases.

Oct. 8, 1940

The speaker of the evening was Garfield G. Duncan, associate professor of medicine at the Jefferson Medical College of Philadelphia, who spoke on the subject of "Diabetes for the General Practitioner." Dr. Duncan gave a very practical and interesting talk.

He pointed out the criteria for diagnosis. First, a urinalysis is done; this may or may not reveal sugar. Should it be normal and diabetes is suspected, then a fasting blood sugar estimate should be taken. This, too, may be normal. In the event that it is, a blood sugar estimate should be taken 2 hours after the patient's heaviest meal. If the blood sugar is under 130 mg. per 100 c.c. of blood, the patient probably does not have diabetes; if it is over 150 c.c., then diabetes is present. In case of doubt following this procedure, a 2-dose glucose tolerance test should be done. This consists of taking a fasting blood sugar and at the same time giving 50 Gm. of glucose by mouth. In one-half hour another blood sugar estimate is taken and a second 50-Gm. dose of glucose is given. In another one-half hour a third blood sugar estimate is taken. If the third blood sugar estimate is higher than the other two, the patient has diabetes; if it is lower than the second, the patient is a nondiabetic.

Dr. Duncan mentioned several nondiabetic conditions in which sugar may be found in the urine; namely, a low renal threshold, lactosuria in pregnancy, glycosuria in thyroid disease, levulosuria, etc.

Two general rules that almost always hold true are: (1) The fat diabetic is a mild diabetic, absolutely true

in 75 to 80 per cent of all cases. Seventy-four per cent of these patients will not need insulin; their weight can be reduced and the diabetes controlled. (2) The thin diabetic is a severe diabetic. It is essential to increase the weight in these patients.

Dr. Duncan pointed out that zinc insulin crystals and regular insulin have exactly the same duration of action, whereas zinc protamine insulin has a prolonged action. All diabetics should carry identification cards in case of insulin reaction or coma.

The treatment of acute complications consists of a liberal carbohydrate diet, regular insulin and feedings distributed equally over the 24 hours. When coma occurs, it is due to neglect on somebody's part. In the treatment of coma both kinds of insulin are used. Carbohydrate must be used along with the insulin. Chlorides should be given freely by vein, by mouth, and subcutaneously. Fluids must be given in liberal quantities. Enemas may be used. Gastric lavage is used for the relief of abdominal pain and persistent vomiting. This procedure is useful in differential diagnosis. If the abdominal pain is due to coma, it will disappear with lavage; if some acute intra-abdominal disease is present, pain will persist.

CHARLES M. SMITH, *Reporter*.

ERIE

Oct. 8, 1940

After the summer recess, the society held its first fall meeting in the Hamot Hospital auditorium, Erie. George F. Stoney presided.

Ray D. McCombs transferred his membership from the Susquehanna County Society to the Erie County Society.

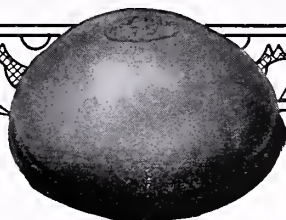
C. H. Dailey, chief inspector for the local narcotic division of the Internal Revenue Department, outlined the rules and regulations with which the pharmacists must comply and asked the co-operation of the physicians of this section. A copy of these regulations will probably be mailed to each physician by a local drug firm. He also stated that he would be around to inspect the records of each physician in this district.

Kenneth S. Treiber presented a detailed report of the recent meeting of the State Medical Society in Philadelphia. The next meeting will be held in Pittsburgh, Oct. 6-9, 1941.

Elmer Hess introduced the speaker of the evening, Gilson Colby Engel, of Philadelphia, whose subject was "Problems of Thyroid Surgery."

Dr. Engel said in part: In tracing back the origin of the thyroid gland phylogenetically, it is noted that the

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gland is not present in the fishes and that it makes its first appearance in amphibians.

Thyroxin, the active principle of the thyroid gland, has several functions: (1) regulation of the oxidation process; (2) promotion of growth; (3) the excretion of water and salts; (4) the action on the liver which depletes the glycogen content in hyperactive thyroid cases; (5) the effect on the nervous system to lower the threshold of irritability.

There is some direct hormonal relationship between the thyroid and pituitary glands. The anterior pituitary secretes a thyrotropic substance which stimulates the thyroid gland to produce thyroxin. If the anterior pituitary gland is removed, the thyroid gland atrophies. If the thyroid gland is removed, there is an excess of thyrotropic hormone produced by the pituitary gland.

The thyroid gland also has functional relationships to other glands, such as the ovary and the pancreas. When hyperthyroidism and diabetes are associated, the diabetes is more easily controlled when the thyroid gland is removed. No definite relationship between the thyroid and adrenal glands has been demonstrated.

Simple goiter is caused by an iodine deficiency and is most prevalent in the glacial lake regions. The gland may be very large and no increased activity may be present. This type of goiter is prevented by the administration of iodine. Large glands of this type may be removed surgically for cosmetic purposes or because of pressure symptoms.

Hypofunction of the thyroid in children may produce juvenile myxedema. One of the most important diagnostic findings in hypothyroidism is the elevation of the blood cholesterol. This is more important in establishing the diagnosis than the basal metabolism test. In this condition, treatment should be started early since there is a retardation of growth. In treatment the dosage of a standard thyroid gland preparation in these cases follows Means' rule: from 2 to 4 months of age, $\frac{1}{10}$ grain daily; 4 to 8 months, $\frac{1}{3}$ grain; 8 to 12 months, $\frac{1}{3}$ grain; 1 to 2 years, $\frac{3}{4}$ grain; 2 to 4 years, $\frac{1}{2}$ to $1\frac{1}{2}$ grains; and 4 to 12 years, 1 to 3 grains daily. These dosages are modified depending upon the clinical response in the individual case.

The indiscriminate use of thyroid gland preparations in the treatment of obesity may produce a state of hyperthyroidism. In the treatment of obesity, diet and exercise should be used first.

Digitalis and morphine are poorly tolerated in the myxedema case.

If a previous enlargement of the thyroid gland should disappear from the neck region, the possibility of its displacement subternally should be suspected.

The classic findings of exophthalmic goiter (Graves' disease) were given. The basal metabolism rate should be investigated.

The adolescent active goiter is treated with iodine, rest, and sedation. After age 20, surgical removal of the gland is necessary for a cure.

In 1918, 58.5 per cent of hyperthyroid cases at the Massachusetts General Hospital were treated by roentgen ray; in 1935, only 0.9 per cent of such cases were treated by this method.

Nodular goiter (Plummer's disease) is characterized by the presence of nodules in the thyroid gland without eye symptoms. There may be no symptoms of hyperthyroidism. The patient may be normal.

Any adenoma of the thyroid should be removed, whether toxic or nontoxic, because 80 per cent of the

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adenomata become toxic at some stage. Three per cent develop into carcinoma, and this group represents 95 per cent of the cases of malignancy of the thyroid gland. Removal of adenomata is good preventive medicine.

In hyperactivity of the nodular gland the symptoms are the same as in Graves' disease, with the absence of the eye symptoms.

Thyroiditis is treated by the application of ice compresses, followed by incision and drainage.

In malignancy of the thyroid gland, early removal by surgery, followed by irradiation, is indicated.

In the preoperative care of the hyperthyroid patient, iodine is not started until preparations have been made for operation. Iodine is administered in the form of Lugol's solution, 10 drops 3 times a day. Enough elixir of phenobarbital is given to produce proper sedation. A high caloric, nonstimulative diet containing vitamin B₁ complex and vitamin C is given. Nourishment is taken between meals. Digitalis is prescribed in the presence of fibrillation.

The time for operation is determined by an evaluation of the following factors: (1) gain in weight, with stabilization; (2) the plateau of the pulse level. Laboratory tests are only accessory factors. The evaluation of the clinical factors is the more important method.

The anesthetic which affords the greatest amount of oxygen should be used. Cyclopropane has not been used because of its explosive properties. Avertin (80 mg. table) and nitrous oxide-oxygen or local anesthesia have been used routinely. There have been no fatalities with the use of avertin since its introduction in 1928 at Lankenau Hospital.

The mortality rate in thyroid surgery has been reduced by the improvements in technic and in the pre-operative and postoperative care of the patient.

Immediately after the operation, fluids are given subcutaneously, and 5 c.c. of Lugol's solution are administered per rectum. Morphine is given in sufficient dosage, with the addition of $\frac{1}{2}$ to 1 grain of scopolamine if necessary. Starting on the day after operation, 10 minims of Lugol's solution are given 3 times a day. A full diet is started as soon as possible. The patient is usually dis-

charged about 7 days after the operation and is seen every 3 months thereafter.

Thyroid crisis may appear from 24 to 36 hours after operation. Immediate treatment is necessary. Fluids containing glucose and iodides are given intravenously. Oxygen and sedatives are given as needed.

In the thyrocardiac case total ablation of the gland is of no avail unless there is evidence of increased activity of the thyroid gland.

In discussion, Lemuel A. Lasher, of Erie, said that there is no value in doing a basal metabolism test in the presence of adenoma, especially of the fetal type. Adenomata may be removed at any age, even in children. The patient should decide the time to operate from the clinical signs. Gentleness in handling the tissues during operation is necessary. Other glands and tissues, especially the trachea, may be damaged by roughness. Better results are obtained by careful preoperative care of the patient.

Benjamin J. Goldman, of Erie, said that nodular goiters are more frequently seen in the Great Lakes region, while diffuse goiters with exophthalmos are seen more frequently in Boston. The ratio is about 3 to 2, with the nodular type predominating.

There is much abuse of the administration of iodine in the treatment of hyperthyroidism. A patient who has been under prolonged iodine treatment should not be submitted to surgery. After the administration of approximately 250 minims of Lugol's solution, the iodine is excreted from the body and has no further therapeutic effect. Lugol's solution may be used as a therapeutic test in the doubtful case.

In the preoperative care, large amounts of fluid are given, using the dorsal vein of the foot if necessary.

Avertin with nitrous oxide-oxygen has been used routinely. Cyclopropane has not been used because the electrocoagulation machine is used for the vessels.

Hyperthyroidism in early youth may be a very active disease. Later in life the disease may not appear to be active. The usual findings may not be found in the elderly patient, who may appear apathetic.

W. Blair Mosser, of Kane, said that in many cases

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where hyperthyroidism is suspected, it may be very difficult to make the diagnosis. In these cases continued observation over a long period of time is necessary. A therapeutic test with iodine may be given after other methods fail to clear up the diagnosis. Recurrences occur in about 10 per cent of cases after surgery and about 5 per cent of cases need reoperation.

Ralph D. Bacon, of Erie, said that the roentgen ray is particularly effective in the control of true exophthalmic goiter. What has been the experience with regard to the technical difficulty of surgery following radiation?

Dr. Engel (in closing): No trouble has been encountered in the surgical removal of the thyroid gland after previous roentgen-ray treatment. The age group affects the type of operation. The 2-stage operation is used in the older group of patients and in the young severe cases. The second stage of the operation is usually performed about 10 to 14 days after the first stage. If there is any reaction, the waiting period may be extended to 6 weeks after the first stage.

Recurrences are less frequent after a more radical removal of the gland. A mild myxedema after operation may be treated successfully with thyroid gland preparations. RICHARD W. MUNZ, *Acting Reporter*.

LEHIGH

Oct. 8, 1940

The meeting of the society was held at the Allentown State Hospital at 3:30 p.m. The hospital extended invitations to the members of the Lehigh, Northampton, and Bucks County Medical Societies and to the Lehigh Valley Homeopathic Medical Society to attend the

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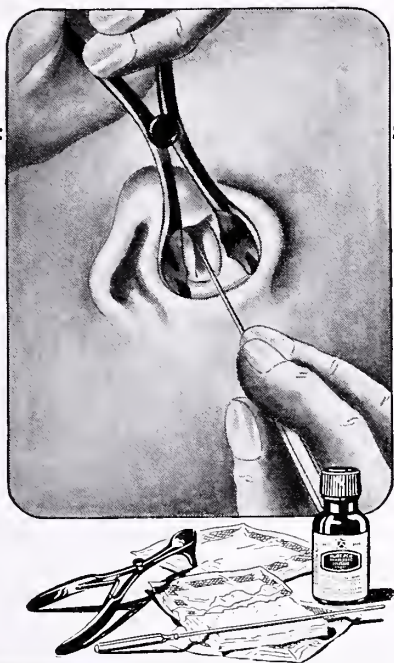
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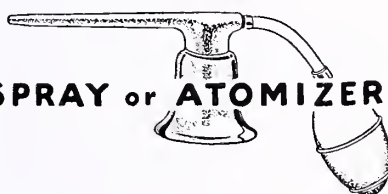
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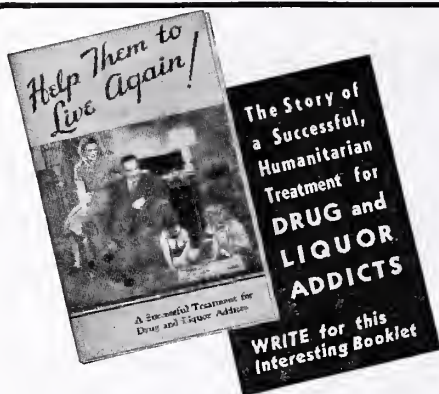
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meeting. Superintendent Henry I. Klopp, chairman of the program, introduced the speakers and motivated good discussions. Howard K. Petry, chairman of the Committee on Mental Hygiene of the State Medical Society and superintendent of the State Hospital, Harrisburg, read a paper on "The Present Status of Shock Therapy in the Treatment of Mental Disease." Herbert E. Heim and Arthur O. Hecker discussed the paper. The main points of the discourse follow.

Insulin, metrazol, and electric therapy are used to induce shock in the treatment of selected cases of mental disease by experienced physicians in mental disease hospitals.

These cases must be free of myocardial disease or any infectious disease. Metrazol and insulin therapy have been found to be most effective in the treatment of some selected cases of schizophrenia and dementia praecox. The insulin is given first in small doses, which are gradually increased until the shock symptoms appear. They are perspiration, salivation, somnolence, confusion, and deep coma. The patient is permitted to have the shock for 2 to 3 hours, then 1 gram of glucose is given for each unit of insulin required to produce shock (from 65 to 300 units are given). The recovery from shock is characterized by progressively increased intervals of mental lucidity and alertness. The dangers are prolonged or delayed coma, even after the patient's blood sugar has become normal, with the possibility of pulmonary infections and tonic convulsions resulting in fractures or dislocations.

Small doses of metrazol act as a cardiac stimulant, whereas large doses rapidly given cause convulsive seizures. The disadvantage of this treatment is that 40 per cent of the cases so treated suffered a fracture

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W. W. Richardson, M.D., Medical Director

(Formerly Chief Physician, State Hospital for Insane, Norristown, Pa.)



or a dislocation of the spine, extremities, or jaw. Curare has been given to decrease the violent tonic phase of the convulsion and a small longitudinal sandbag has been placed under the thoracic spine to provide for full extension. The extremities are controlled.

Electric therapy has been used in the treatment of inoperable epileptiform convulsion cases. The electrode is placed against selected sites on the skull for .6 of a second (using 125 volts). Definite convulsions follow, of which the patient retains no memory. Insulin shock is preferred in the treatment of late cases of schizophrenia, whereas metrazol convulsions are selected in the treatment of early cases of dementia praecox. This treatment is followed by psychiatric and occupational therapy during the lucid interval produced.

Max Rossman, of the Allentown State Hospital, presented "The Psychiatric Aspects of Bromide Intoxication." Arthur Lindenfeld and Ethel F. Buchman discussed the paper. The main points of the paper are as follows:

The symptoms of bromide toxicity are blurring of vision, transient restlessness, boggy sensations, delirium, disorientation to time, place, and persons, violent reactions, and hallucinations.

The treatment consists of giving sodium chloride, 15 grains, 3 times daily, giving fluids freely, and draining the stomach. The paranoid trend may persist for weeks, even after the bromide content of the blood has been reduced to normal.

Many cases of the major psychoses are admitted to the hospital with symptoms of bromide poisoning. It is considered to be unwise therapy to give bromides, as these drugs cannot remove the condition. They lessen some of the symptoms for only a short time and then often superimpose the symptoms of bromide toxicity on those of the psychotic condition for which they were

given. It has been found that bromides are present in the spinal fluid in one-third the strength they are present in the blood stream in normal conditions. This concentration depends on the permeability of the choroid plexus. It becomes more permeable in organic disease of the brain; therefore, the bromide concentration is higher when compared to that of the blood than in normal conditions. It becomes less permeable in other cases, as schizophrenia; therefore, the concentration of bromides in the spinal fluid is lower as compared to that of the blood.

Robert L. Schaeffer, surgical chief of the Allentown Hospital and chairman of the Acute Appendicitis Mortality Committee of the county society, introduced Cecil F. Freed, of Reading, and Miss Stevenson. They outlined the purpose of the committee, which is to educate the public by lectures, motion pictures, and adcasters and to increase the participation of the district in the maintenance of the State Convalescent Peritonitis Serum Bank.

ANNA M. ZIEGLER, *Reporter.*

LYCOMING

Oct. 11, 1940

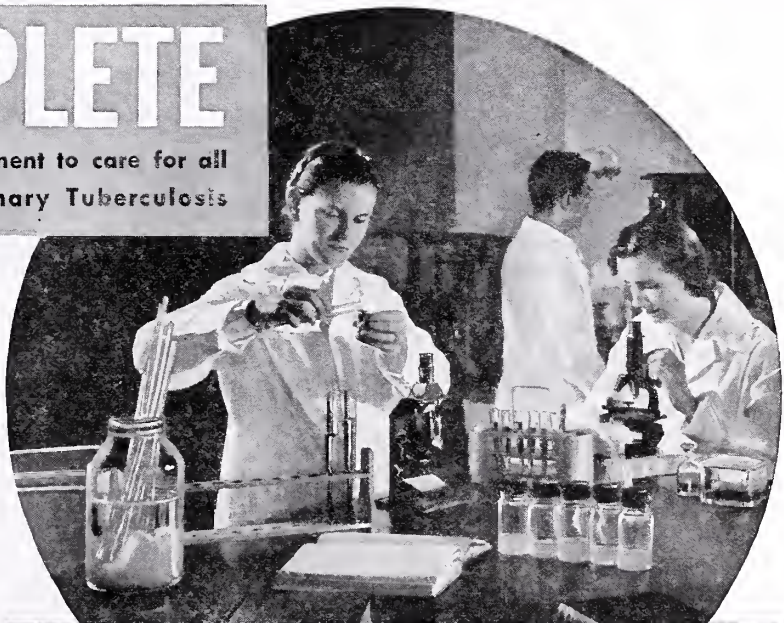
The regular meeting of the society was held in Medical Hall of the Williamsport Hospital at 1:30 p.m.

Wendell J. Stainsby, chief of the Medical Service at Geisinger Memorial Hospital, Danville, spoke on "The Use of Sulfanilamide, Sulfapyridine, and Sulfathiazole." He stated that even though our understanding of the action of these drugs is incomplete, we find that certain derivatives are much more effective when used against specific infections. Sulfanilamide is the drug of choice in infections caused by the *Streptococcus hemolyticus*. Sulfapyridine finds its chief value in pneumococcal in-

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fections, and is also of use in the treatment of infections caused by the *Streptococcus viridans*. Sulfathiazole has been found to be extremely effective against the pneumococcus and is far less toxic than sulfapyridine. The mortality rates in the use of the last 2 drugs are the same, however. Sulfathiazole is quite useful in staphylococcal infections, but unfortunately is of little use in cerebral spinal lesions because it does not pass into the subarachnoid space. Regardless of this last fact, sulfathiazole is still the drug of choice in staphylococcal meningitis, although it is admittedly of little effect.

Dr. Stainsby emphasized the importance of the clinical diagnosis in pneumonia before attempting the use of either of these chemotherapeutic agents. Too often a diagnosis is made upon a single finding, such as the sputum, roentgen ray, etc., without the correlation of all the clinical findings and symptoms. In many cases these drugs are employed when perhaps less toxic agents could have been used with adequate results.

In discussion, Merl G. Colvin made one pertinent suggestion; namely, that sulfapyridine be used during the first 24 hours of treatment in pneumonia, and that sulfathiazole then be substituted in an effort to employ the quicker action of the sulfapyridine and yet avoid its toxic effects.

The meeting closed at 3:30 p. m.

EDWARD LYON, JR., *Reporter.*

MONTGOMERY

Oct. 9, 1940

The regular meeting was held at the Society Building, Norristown, with an attendance of 57. There were 11 applications for membership. Secretary Walter J. Stein made a very complete and voluminous report of the

State Society meeting. President Henry D. Reed has appointed the following Committee on Medical Preparedness: George W. Miller, chairman, Norristown; Henry D. Reed, Pottstown; Wm. H. Regelman, Hatboro; Clifford H. Arnold, Ardmore; and John D. Perkins, Conshohocken. Chairman Miller stated the aims and duties of this committee.

The paper of the day was on "Maxillofacial Surgery" by George M. Dorrance, of Philadelphia. He said that cleft palate surgery is so often unsuccessful because of a lack of understanding of the sphincter muscle of the oropharynx. The push-back operation pushes back this muscle so that it can shut off the nose, in conjunction with the vomer transplant and the skin graft. Dr. Dorrance spoke lucidly of the use of this procedure in correcting that group of palatal cases that are surgical successes but speech failures. The value of the push-back operation on adult patients who, having been operated upon during childhood without speech benefit, may now be considerably helped in obtaining articulate speech.

A description was given of the newer concept of the pharyngeal sphincter action necessary for articulate speech. Lantern slide illustrations of anatomical dissections were shown demonstrating the following:

Alcoholic Injection of the Gasserian Ganglion for Tic Douloureux.—Relative merits of directly injecting the ganglion through the foramen ovale, as contrasted to the nerve injections and surgical treatment. The wider margin of safety and longer duration of anesthesia to be expected by the ganglion injection. Technic of injection illustrated with lantern slides.

"Short or Spastic Lip" and "Rabbit Nose."—The simple intra-oral surgical approach to the areas responsible for these conditions, and their correction. Com-



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plete restoration of the normal lip line with the elimination of the untoward facial grimace incident to exposure of the teeth and gums of the natural or artificial denture.

Spastic contraction of the alae nasi muscles corrected surgically. Lantern slide demonstration of the surgical approach and correction, and cases before and after correction.

Dr. Dorrance voiced what others have been thinking; namely, that the program of the Surgical Section of the State Society was so long that there was no time for discussion of the papers. This eliminates much that is most interesting and profitable.

WALLACE W. DILL, *Reporter.*

VENANGO

Sept. 20, 1940

The fifth annual postgraduate open meeting of the society was held at the Wanango Country Club. A few medicos enjoyed golf in the morning and luncheon following the golf.

At 2 p. m. the scientific meeting was called to order with Donovan C. Blanchard, of Franklin, presiding. Arthur C. Curtis, assistant professor of internal medicine, University of Michigan Medical School, presented "The Medical Treatment of Peptic Ulcer." He reviewed the old Sippy régime, and stated that while it was an advance step in its time, it has proved to be definitely deficient in vitamin B complex and vitamin C. Dr. Curtis outlined his method of treating peptic ulcers. He prescribes 3 full meals daily, the diet consisting of general foods with the exception of coarse vegetables and condiments. Between feedings eggnog is used. Alkalies are used to control the hyperacid symptoms and to reduce the activity. He compared the various alkali tablets and powders with the more recent antacids, of which he considers colloidal aluminum hydroxide (amphojel) probably the best. It has one disadvantage in that it is constipating, but this difficulty can be overcome by the simultaneous use of mineral oil. The dosage is 2 teaspoonsful between feedings for 6 to 8 weeks, and 2 times daily afterwards. However, if the dosage mentioned is not sufficient to control all symptoms, additional medication is given. He also mentioned magnesium trisilicate, 15 grains every hour between feedings, as an excellent antacid. Histidine monohydrochloride was mentioned merely to condemn it, as it has no effect on hyperacidity nor does it have any healing qualities. However, some individuals report it to be of value in controlling the pain.

Concerning hemorrhage from peptic ulcer, Dr. Curtis said that morphine should not be used, that it would be better to give some type of barbitol. Intravenous fluids and transfusion are of great help. He mentioned the continuous amphojel drip treatment as being efficacious. He feeds his patients with bleeding ulcers just as if they were not bleeding, because he believes that motility is reduced by keeping something in the stomach. He reports exceedingly good results under this type of régime.

Frederick A. Collier, professor of surgery, University of Michigan Medical School, discussed "The Surgical Treatment of Peptic Ulcer." In treating a peptic ulcer under the medical régime, the patient should show no symptoms after a week, no blood after 2 weeks, and the ulcer should appear smaller on roentgen ray after 3 weeks. If these conditions are not satisfied, then



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ALBERT STRICKLER, M.D., *Medical Director*

surgery should be considered. Generally, he believes that 7 per cent of ulcers need surgical treatment.

The indications for surgery are perforation, pyloric obstruction, penetration, uncontrollable hemorrhage, and resistance to medical treatment. He reviewed briefly the signs and symptoms of perforation and pyloric obstruction, and mentioned that many apparent pyloric obstructions are due to edema of the area, and that after conservative treatment the obstruction subsides and the necessity for surgery disappears. Concerning hemorrhage from peptic ulcer, he stated that the greatest mortality occurs in patients who are age 50 or over. He reviewed the various procedures in the surgical treatment of ulcers and stated that he prefers gastrectomy. He demonstrated the various surgical procedures by lantern slides.

Harry A. Towsley, assistant professor of pediatrics, University of Michigan Medical School, spoke on "The Care of the Newborn." He recommended the giving of one ounce of water 6 hours after birth, followed by 5 per cent glucose every 4 hours for at least 4 feedings, then one or two ounces of an evaporated milk formula to be given every 4 hours until adequate nourishment can be obtained from the breast. He discussed the problem of vomiting, giving the cause as distention, gastro-intestinal infection, a faulty formula, cerebral injury, and congenital malformations. He recommended the use of elixir of phenobarbital in colic and vomiting. The causes of diarrhea are carbohydrate intolerance, overfeeding, concurrent infections, and metabolic disease.

For care of the skin and prevention of infection, Dr. Towsley recommended leaving the vernix caseosa on the body, removing it only from the face. After 4

days he recommends an oil bath, and after 10 days a water bath. He considers antiseptic ointments of value, but mentions dusting powders only to condemn them. For the treatment and prevention of diaper rash, he recommended putting the diaper through vinegar water or a 1-20,000 bichloride of mercury solution. The best treatment of diaper rash is the application of amertan ointment. For the treatment of impetigo, he recommends aqueous 1 per cent gentian violet.

Dr. Curtis also discussed the newer chemotherapeutic agents including sulfanilamide, sulfapyridine, and the very recent sulfathiazole.

Dr. Coller also discussed the surgical diseases of the colon and the rectum. By the use of lantern slides he showed roentgen-ray pictures and schematic drawings of ulcerative colitis, diverticulitis, and carcinoma of the colon. He also demonstrated by lantern slides the various surgical procedures and operations in the treatment of these diseases.

Following dinner at 6:30 p.m., Dr. Towsley discussed the various contagious diseases and showed colored motion pictures of cases of scarlet fever, measles, chickenpox, smallpox, and whooping cough.

WILLIAM F. BREHM, *Reporter.*

WARREN

Oct. 21, 1940

The meeting was held on the above date with an attendance of 31 members and 5 guests.

William T. Lemmon, Jefferson Medical College of Philadelphia, was the guest speaker and gave an interesting description of some of his methods of surgical

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PHONE 117

technic, especially in gastro-intestinal surgery. Motion pictures in color illustrated the talk most satisfactorily.

The continuous spinal novocain injection into the subarachnoid space, which Dr. Lemmon has helped to develop, was also described. He stated that properly administered this method of anesthesia is as safe as any form of anesthesia and aids in the reduction of mortality and morbidity.

Although only 15 per cent of all gastric ulcers require operation, an acute perforation needs early attention.

Gallbladder surgery was demonstrated by a motion film in color.

Dr. Daley, of the Federal Narcotic Bureau for the district, explained some of the provisions of the Harrison Narcotic Act and pleaded for greater co-operation in its enforcement.

Hosts for the dinner which followed were Drs. Rosenzweig, Robertson, Shuler, Smith, and Shortt.

MICHAEL V. BALL, *Reporter.*

WYOMING

Oct. 9, 1940

The society and auxiliary met in Tunkhannock with the president, Van C. Decker, presiding.

Lorne T. MacDougal gave a report of the activities of the House of Delegates at the recent State Society meeting.

The president appointed T. Oliver Williams and Arthur B. Davenport of Tunkhannock as members of the Medical Preparedness Committee for our county.

Our plan for services to the members of the Farm Security Administration program has been approved by the State Society and may soon be in operation.

Dominic S. Motsay and Raymond L. Evans of the Packer Hospital Clinic at Sayre, were our guests. Dr. Evans gave a talk on "Infections and Injuries of the Hand of Interest to the General Practitioner." He said, in part, that the successful outcome of infections of the hand depends upon a thorough knowledge of the lymphatics, tendon sheaths, and fascial spaces of the hand and forearm. Much of the economic loss to the

patient with an infected hand may be attributed to an incorrect and late diagnosis, incorrectly placed incisions, through-and-through tube drainage, and failure to use general anesthesia.

ARTHUR B. DAVENPORT, *Reporter.*

THE GANG THAT RUNS THINGS

"Ah, what's the use?" said the enthusiastic young physician. "I tried to horn in here, but only busted my horn. There is a gang that runs this medical society, and outsiders have no more show than a snake has hips!"

The past president, to whom this remark was directed, lighted an obese cigar with a red and gold life preserver around its midriff and then spoke:

"You are right, young man, and you are wrong," he said. "By this statement I mean that you are right about a 'gang' running the society. There's a 'gang' running every organization on earth. If there wasn't, there wouldn't be any organizations. On the other hand, you are wrong when you say you tried to horn in and couldn't. You did not go about it right. Any good guy who wants to horn into any gang has to know the password, and I will give it to you in strictest confidence. These words are: 'What can I do to help?' Any man who will use those words will find himself as busy as a one-armed piano player with a bad case of hives!"

—Detroit Medical News.

TWELVE THINGS TO REMEMBER

1. The value of time.
2. The success of perseverance.
3. The pleasure of working.
4. The dignity of simplicity.
5. The worth of character.
6. The power of kindness.
7. The influence of example.
8. The obligation of duty.
9. The wisdom of economy.
10. The virtue of patience.
11. The improvement of talent.
12. The joy of originating.

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MRS. GEORGE C. YEAGER, *Editor*
1419 E. Susquehanna Avenue
Philadelphia, Pa.

President's Address

MRS. MAXWELL J. LICK
Erie, Pa.

WHEN I review the history of our auxiliary and contemplate the pioneer work connected with its organization, I feel very humble in accepting this gavel and in assuming these responsibilities. My admiration for the past presidents and their organization is boundless. So completely has the field of endeavors been covered that there are no new ideas or suggestions which I can add. My year of preparation for these responsibilities has been exceedingly pleasant and valuable because of the privilege of meeting and knowing many of you intimately. My hope, therefore, is that as auxiliary members you will continue to follow the slogan "EDSA" which Mrs. John H. Doane has established, and bring it to a fuller realization of completion. We are convened today in the "City of Brotherly Love." In this atmosphere of the liberty and independence of our forefathers, we are inspired to pledge ourselves anew to the fine ideals and high aspirations of a profession which has dedicated itself always to the welfare of mankind. We must be alert to their problems and constantly vigilant in our concern for the menaces threatening them.

As physicians' wives we are closely allied to the traditions of the medical profession. We cannot overestimate the necessity of helping to maintain their high ideals. The confidence in the results accomplished by our auxiliary gives us courage to combat their problems and to meet them with enthusiasm. Each auxiliary can only be as strong as its individual acquaintances and friendships. If these are nourished with social contacts and companionships, we will be cemented together with a unity of purpose which

will be impregnable. It will not be a curious mushroom growth that springs up suddenly without root, but rather a friendship which is permanent and loyal, one which will be of inestimable value to the medical profession. Remember, "He alone has lost the art to live who cannot win new friends." So it is with our auxiliary. We need new members or our auxiliary will have lost the purpose of its existence.

From biblical times down to the present, the significance of woman has had a vital influence, not only in art, literature, music, and drama but in our everyday thinking. In these days of roaring traffic, crowded cities, and blaring radios, it is no mean feat of the imagination to project ourselves backwards and visualize what it meant to live in our forefathers' time. Countless words have been written about the women of those years—their suffering, their toiling, their utter loneliness and fears in conquering the wilderness. One-half the burden of settling this untamed continent in which we live in comfort today lay in the bravery and courage of these pioneer women. The simplicity of their lives, their loyalty to their homes and to their churches is a rich heritage—one which our present generation cannot overlook and could well emulate. So what we find ourselves as women doing today is not erratic, not a new outbreak of expression; it is a part of a consecutive movement as old as the ages.

Our forefathers fled Europe to avoid the dominance of unfair power. Today we shudder at the decay of the moral fiber of France which brought them to their present subversive state. We are frightened at the sanguinary specter of war and disease that stalks across the world's horizon. We are terrified at the insidious movements which are undermining the fundamental principles upon which this country was founded.

Since the World War there has been a definite weakening in the moral and social structure of our country. All kinds of "isms" have sprung up; religion has been relegated to a secondary

Read before the General Meeting of the Woman's Auxiliary to The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 2, 1940.

place; our ideals of moral standards have been lowered; our social life has changed and we have become class-conscious. Now the threats of non-Americanisms against our democratic system are tearing down the individualism for which our forefathers fought. Certain forces in the world have taken away the incentive to create. There is no reward for individual effort. What a paradox it is that these "isms" take the advantage to employ and to use the very principles of democracy which they wish to destroy. If the freedom to speak, to write, to organize is lost, our very democracy is uprooted and left to smolder in the ruins of anarchy and revolution.

The regimentation of the medical profession is but another attack on the privileges of a free people. It is a direct assault on a profession whose ideals and standards are comparable to those of the Man of Galilee whose actions were motivated always by kindness and mercy.

Civilization has been founded on the principles established by the medical profession. Down through the years this profession has constantly crusaded to decrease illness, to search for causes, to work for prevention. Think of the long years of gratuitous services of Osler, DaCosta, Gorgas, Morgan, and countless others who fought public opinion as well as disease, who gave unstintingly of time and energy to make this world a safe place in which to live. All unheralded is the physician who works in the smaller communities, where distances are great and the traveling difficult. His work transcends that of the city physician, with hospitals at his command, and the antiseptics simple. This man is physician and nurse combined. He is a teacher of the simplest laws of cleanliness; he is the family physician, yes, but he is more than that; he is the Father Confessor.

Tomorrow morning the hospital halls in every institution in this and other countries will hear the echo of thousands of physicians who have entered those doors for the alleviation of suffering. The hours spent in the clinics and wards far outnumber those spent with private patients. The compensation will be in the smiles and faith which this class of patient gives. It is something which no politician, no clique can take away. It is a reward which comes only to those who practice the healing art. No corroding influence can take away from this splendid army of men their inspiration to relieve the pain of the suffering or to help ease the journey into the Great Beyond. Certainly the medical profession can be proud to be called a monopoly and a trust, for no other has it. It is a monopoly of sympathy and kindness, of depth of human understanding, a trust

of faith and hope, of the secret tragedies of patients, of comfort to the bereaved in the oppressive stillness of the chamber of death.

We are rapidly becoming a nation drugged by subsidies, gratuities, and bonuses. The reward for individual effort has been lost sight of, and the medical profession with all its principles is being attacked by those same forces which would also take away our other liberties. The need for unity in the profession, as well as in our government, is a most necessary factor for American culture today. This profession is one of the strongest links in the chain of American advancement. These men represent some of our finest minds, they are trained to understand human emotions, they are cultured and educated men. They cannot be placed in a certain groove and told when and how they can work. They are scientists and no scientist can work a few hours a day. It is a constant job, always at the beck and call of the public.

Much important legislation will be forthcoming this year. There must be a united effort on the part of the profession to retain their individualism and we as their wives must encourage and help in this their time of struggle. As an auxiliary, our responsibility in assuming our duties in the work for the Medical Benevolence Fund, our membership, our health programs, *Hygeia*, etc., relieves their anxieties in that direction. As in the past, they must feel that they can depend on us. Our efforts for unity can be their watchword. Victor Hugo has said it most completely. "Man is neither master of his life nor of his fate. He can but offer to his fellowmen his efforts to diminish human sufferings. He can but offer to his God his indomitable faith in the growth of liberty."

PRESIDENT'S LETTER

DEAR AUXILIARY MEMBERS:

This is a busy month for all homes, and as physicians' wives we have our abundant share of duties. We cannot overlook, however, that our auxiliary activities are part of them, since our homes and the medical profession are one and the same.

You are all well launched in the combined activities of your organizations. With the splendid leadership in each county, we can anticipate a successful and busy year. No small part of this will be the continued interest and enthusiasm of each member. It is vital to our auxiliary that

new members be added to our lists. We need every physician's wife in our organization, and they need us. They must be made to realize their responsibility and thus insure a solid foundation for a working basis.

This legislative year may prove very important to each physician's home. We cannot afford any type of socialization. Mrs. Eicher is your new legislative chairman and will send you informative material at any time. Let us follow this every step of the way and give sympathetic support to our profession. The National Bulletin will also give you very pertinent information, so try to have several copies in your auxiliary.

The civic and social demands on our daily routine will keep us exceptionally busy this year, but we have a very personal responsibility to our auxiliary. This must be maintained regardless, and our interests must never lag behind in our own activities. Our country is making history and we can only hope that the highest ideals and moral standards of our forefathers will be kept unpergued.

I wish for each auxiliary a very happy and successful year, and to each one of you a very merry holiday season.

Cordially,

MARY (MRS. MAXWELL) LICK, *President.*

A REQUEST

To be an informed member regarding auxiliary work in its many phases, read the Bulletin published by our mother organization, the Auxiliary to the American Medical Association. Let Pennsylvania lead in the number of subscriptions.

Send one dollar with your name and address to Mrs. William F. Krick, 340 N. Fifth St., Reading, Pa.

COUNTY AUXILIARY REPORTS

Allegheny.—On the afternoon of Sept. 24 the auxiliary held its initial fall meeting in the Cardinal Room of the Hotel William Penn, Pittsburgh.



BURN-BRAE

Founded by the late Robert A. Given, M.D., 1859

A Private Hospital for Mental and Nervous Diseases and Alcoholic Cases

CLIFTON HEIGHTS, Delaware County PENNSYLVANIA

Long Distance Telephone, Madison 535, via Philadelphia

At the conclusion of the business meeting the scheduled program for the afternoon began. Mrs. Lillian Wood Gardner, the soprano soloist of the First Grace Reformed Church, gave a recital.

Mrs. Howard A. Power introduced Frederick M. Jacob, M.D., who brought greetings from the Allegheny County Medical Society, of which he is the president. Dr. Jacob stressed the public relations work of the society and the need for greater help from the auxiliary. He insisted that the public should be more thoroughly informed as to the many advantages of preventive medicine, especially among children of preschool age. He closed with this thought: "Whether we are at peace or war, the medical profession must continue to carry on its work of preserving the health and life of mankind."

The next speaker was Dr. Herbert L. Spencer, president of the Pennsylvania College for Women. Dr. Spencer is a very versatile, capable, and interesting individual. He has several hobbies, the chief of which is photography. Dr. Spencer believes that everyone should have a hobby because it gives a person a broader outlook and is very good mental hygiene. In his subject, "Trends in Liberal Arts Programs of Today," he endeavored to show the results of this new method of education.

Berks.—The auxiliary met at Medical Hall, Reading, Oct. 14. The proceedings of the Second Council District meeting at Quakertown were reported. Fifty copies of *Hygeia* have been sent to P. T. A. groups in the county. The A. M. A. platform was read and each member was asked to commit it to memory. Eight new members were welcomed. The arrangements for the Health Education essay contest in the public high schools of the county have been completed.

OVERLOOK SANITARIUM

NEW WILMINGTON, PENNA.

Half way between Pittsburgh and Cleveland

A BEAUTIFULLY located sanitarium especially equipped for the care of psychoneurosis. Mental cases and alcoholics not admitted.

RE-EDUCATIONAL METHODS

REST CURE,

PSYCHOTHERAPY,

HYDROTHERAPY

Elizabeth McLaughry, M.D. — Elizabeth Veach, M.D.

Our president gave a comprehensive and interesting report of the state convention in Philadelphia, Sept. 30 to Oct. 3. Our auxiliary was highly honored by Mrs. William F. Krick being elected state chairman of the *Bulletin*, the new magazine published by the Auxiliary to the A. M. A. Mrs. Ralph L. Reber and Mrs. Krick were elected delegates to the national convention in Cleveland, Ohio, Mrs. Leon C. Darrah was elected second vice-president of the State Auxiliary, and Mrs. Wellington D. Griesemer was elected state chairman of *Hygeia*.

Program: Mrs. Ruth Spencer Beckman spoke on "The Need and Use of Present-Day Red Cross Work." She sketched the history of the Red Cross and said that 5 million dollars and 17 million surgical dressings have been contributed to Great Britain. A mobile canteen unit is a gift from Berks County.

Tea was served with Hallowe'en specialties.

Chester.—The auxiliary was served a covered dish luncheon, and a social hour preceded the first fall meeting held Oct. 15 at the home of Mrs. Kenneth Scott, Oakbourne Farm Colony. The president, Mrs. J. Oscar Dicks, was in the chair.

Work for British relief was started, and there will be weekly gatherings for this knitting project which we hope will bring closer working ties.

Reports of the state convention were given by delegates Mrs. Joseph Scattergood and Mrs. Michael Margolies.

Dauphin.—The first fall meeting of the auxiliary was held Sept. 17. It was a luncheon at the home of Dr. and Mrs. Jesse L. Lenker in Paxtang. A short business meeting followed, during which the delegates and alternates to the state convention were elected. The meeting was then turned over to the program chairman, Mrs. David E. Hoff, who had a very interesting quiz contest planned which was conducted by Mrs. Tom Outland. All members took part, and a prize was awarded to the winner.

The officers and board members for the coming year are as follows: President, Mrs. Clarence E. Moore; vice-president, Mrs. Ross K. Childerhose; recording secretary, Mrs. George H. Stein; corresponding secretary, Mrs. William S. Dietrich; treasurer, Mrs. Ralph S. Walter; program chairman, Mrs. David E. Hoff; ways and means, Mrs. Charles B. Fager; public relations, Mrs. Hewett C. Myers; house, Mrs. Paul C. Walter; budget, Mrs. Andrew J. Griest; publicity, Mrs. John C. Sherger; membership, Mrs. Ross K. Childerhose; welfare, Mrs. Joseph W. Shaffer; archives, Mrs. George B. Stull; *Hygeia*, Mrs. Walter J. Connor; legislative, Mrs. Harold F. Lanshe; telephone, Mrs. Wm. Bender Miller; director, Mrs. A. Harvey Simmons.

Delaware.—The auxiliary began its fall season with a campaign for new members, 3 having been added to the rolls to date with 4 more to be welcomed in November.

At the Second Councilor District meeting at Quakertown on Sept. 12, Delaware County was represented by 12 members.

The State Auxiliary convention in Philadelphia early in October, being practically next door, was well attended by members of this auxiliary. All who attended felt well repaid for the time spent there.

Our first regular meeting was a luncheon at the Rolling Green Golf Club in Springfield, where the

presidents of Berks, Chester, Montgomery, and Philadelphia County Auxiliaries were our guests. Each came accompanied by several friends, making the luncheon quite a gala affair. Reports of the convention were read and our exhibit of last year's accomplishments was on display for the benefit of those of our members who had not attended the convention.

Mrs. William F. Krick, of Reading, state chairman of the National Auxiliary *Bulletin*, made a plea for subscriptions.

Mrs. Elsie W. Smuck entertained with several delightful readings.

Erie.—The auxiliary met on Monday afternoon, Oct. 7, at the home of Dr. and Mrs. Charles A. McNeill. Mrs. John F. Hartman presided at the business session. Two new members were introduced and welcomed into the auxiliary—Mrs. Robert L. Loeb and Mrs. Erwin D. Zeman.

Mrs. Ralph D. Bacon reported on the work of some bacteriologists and epidemiologists, speaking particularly of the late Dr. Hans Zinsser. Mrs. John F. Hartman and Mrs. James D. Stark gave reports of the state convention held recently in Philadelphia. It was announced that Mrs. Maxwell Lick, state president, has 3 Erie members on her executive board—Mrs. Frederick W. Underhill, Mrs. Stark, and Mrs. James H. Delaney.

Tea was served with Mrs. Stark and Mrs. Hartman pouring. There were 57 members present.

On Wednesday, Oct. 23, the auxiliary members entertained their husbands at a supper dance at Kahkwa Country Club. The clubhouse was attractively decorated. Fifty-six couples enjoyed one of the nicest parties the auxiliary has ever held.

Fayette.—The first meeting of the new season was held Oct. 10 at the White Swan Hotel, Uniontown.

The newly installed officers for the ensuing year are: President, Mrs. Thomas G. McLellan; president-elect, Mrs. George N. Riffle; first vice-president, Mrs. David E. Hemington; second vice-president, Mrs. Russell E. Sangston; recording secretary, Mrs. Othello S. Kough; corresponding secretary, Mrs. David E. Lowe; and treasurer, Mrs. Ralph P. Beatty.

Owing to the absence of our new president, Mrs. McLellan, the retiring president, Mrs. Holbert J. Nixon, had charge of the meeting. As is customary when the auxiliary reconvenes in the fall, no outside speaker was on the program; only routine business was discussed.

Mrs. Beatty gave a report on the fall style show, which was held Sept. 18 in the ballroom of the White Swan Hotel. This show was held to secure money for the eyeglass fund, with which glasses are to be purchased for underprivileged children. The net proceeds of the show were \$100.20. Mrs. Beatty also gave a complete report of the treasury.

An interesting report was given on the state convention at Philadelphia by our delegate, Mrs. John N. Snyder.

Lackawanna.—A reception and tea honoring new members followed the regular monthly meeting held Tuesday afternoon, Oct. 15, in the Chamber of Commerce Building, Scranton. Ten new members were introduced.

A motion picture was shown in the interest of the Community Chest drive, with Mrs. J. Norman White, program chairman, in charge.

Delegates' reports on the recent state convention held in Philadelphia were given by Mrs. James D. Lewis,

Mrs. W. Rowland Davies, and Mrs. Walter J. Larkin. Mrs. Lewis was in charge of the presentation of reports.

Tea was served in the lounge. Approximately 40 members were present.

Lehigh.—The regular monthly business meeting was held on Tuesday afternoon, Oct. 8, at the Woman's Club, Allentown. The president, Mrs. Elmer H. Bausch, was in charge of the meeting, which had as its theme, "Echoes of the State Convention." Delegates presenting reports of the convention were Mrs. Carl J. Newhart, Mrs. Charles R. Fox, and Mrs. J. Treichler Butz. They gave interesting résumés of the parley proceedings, attended by approximately 15 members from the local auxiliary.

At the convention, Lehigh County received the honor of 3 appointments. Mrs. J. Treichler Butz, who completed a 2-year term as a member of the executive board of the State Auxiliary, was appointed councilor of the Second District which comprises 6 counties in the state organization. Mrs. Laurence C. Milstead was reappointed exhibit chairman of the auxiliary for one year, and her husband, Dr. Milstead, was appointed to the advisory council for a year.

Arrangements were completed for a Hallowe'en party to be held Oct. 18 at 8:30 p. m. at Locust Crest, near Vera Cruz. A delightful musical program, arranged by Mrs. Joseph R. Bierman, music chairman, was presented.

A patriotic tea followed with Mrs. Harry J. S. Keim and Mrs. Robert L. Schaeffer pouring. As a special treat, strawberries from the farms of Dr. Charles R. Fox were served.

On Friday evening, Oct. 18, a large group of physicians and members of the auxiliary were entertained at

a Hallowe'en masquerade at the summer home of Dr. and Mrs. Elmer H. Bausch. Cards, games, and dancing were enjoyed. Herman Kulowich and his orchestra furnished the music. Refreshments were served.

Lycoming.—The auxiliary held its monthly meeting at the Woman's Club, Williamsport, Sept. 13, at 2 o'clock, preceded by the usual luncheon.

The following officers were elected for 1940-41: President, Mrs. Herman Finkelstein; first vice-president, Mrs. P. Harold Decker; second vice-president, Mrs. Merl G. Colvin; third vice-president, Mrs. Edward Lyon, Jr.; recording secretary, Mrs. Louis M. Orr; corresponding secretary, Mrs. Alex. W. Blumberg; treasurer, Mrs. Carl H. Senn; directors, Mrs. Percy A. Bay, Jersey Shore; Mrs. Amos V. Persing, Jr., Watontown; and Mrs. William D. Angle, Williamsport.

Delegates to the annual meeting of the Auxiliary to The Medical Society of the State of Pennsylvania, held in Philadelphia, Sept. 30 to Oct. 3, were elected as follows: Mrs. Herman Finkelstein, Mrs. J. Louis Mansuy, and Mrs. Amos V. Persing, Jr.; alternates, Mrs. Wilfred W. Wilcox, Mrs. Galen D. Castlebury, and Mrs. William D. Angle.

It was decided to hold the annual Christmas dance at the Lycoming Hotel on Dec. 27, and Mrs. Castlebury consented to act as chairman for the dance.

It was decided to hold a "Membership Tea" in October instead of the usual luncheon.

Mifflin.—During our summer vacation we look forward to a happy event when we are the guests of the medical society at their annual outing. This year it was



**PAUSE...AT THE
FAMILIAR
RED
COOLER**

Drink
Coca-Cola
Delicious and
Refreshing

held on the first Thursday in August at the American Legion Country Club at Mt. Union. This is an ideal spot for such an occasion.

After a noon-day dinner, a meeting of the auxiliary was held in charge of the new corps of officers elected in April. The president, Mrs. A. Reid Leopold, presided. After the reading of the minutes of the previous meeting by the secretary, Mrs. John R. Hunter, Jr., the delegates were elected to the state convention to be held in Philadelphia, and the auxiliary voted to increase the contribution to the Medical Benevolence Fund. A report of the Sixth Councilor District meeting held on July 11 at the Grier School, Birmingham, was given by the past president, Miss Lucretia Johnson. At the close of the meeting the balance of the day was spent according to each individual's choice—golf, tennis, swimming, cards, and the many diversities of the club.

Our auxiliary held a luncheon at Green Gables Hotel, Lewistown, Oct. 8. At the business meeting following the luncheon, Mrs. Joseph S. Brown gave an interesting and comprehensive report of the convention at Philadelphia.

The *Hygeia* chairman, Mrs. George R. Barnett, spoke of the coming campaign for more subscriptions. Some subscriptions were taken for *The Bulletin*, published by the Auxiliary to the A. M. A.

Mrs. Joseph S. Brown, public relations chairman, stated her objectives and is formulating plans for her work to begin early.

Miss Albertina Six, superintendent of the Lewistown Hospital, was present and was asked by the president to state the needs of the hospital. It was decided that each member should make a voluntary subscription as a gift to the hospital. The rest of the afternoon was spent at bridge.

Philadelphia.—The first meeting of the fall was held on Tuesday, Oct. 8, at the Philadelphia County Medical Society Building. Edward L. Bortz, M.D., president of the Philadelphia County Medical Society, and Francis F. Borzell, M.D., president of The Medical Society of the State of Pennsylvania, brought greetings from their respective societies. Mrs. Robert A. Heinsohn, better known as Lillian Britt, reviewed the latest fall books. The soloist was Mrs. Charles Edmunds. After the meeting, tea was served.

On Wednesday, Oct. 16, about 100 members and friends journeyed to the New York World's Fair, under the leadership of Mrs. John B. Lownes, and enjoyed a happy, well-planned day.

Schuylkill.—A delightful tea was enjoyed on Tuesday, Oct. 8, by members of the auxiliary in connection with the regular business session held in the Y. W. C. A., Pottsville. Mrs. Charles V. Hogan, president, presided.

The following are chairmen of standing committees for the new year: Mrs. George C. Hohman, publicity;

Mrs. Walter R. Rentschler, *Hygeia*, with Mrs. Martin O. Blechschmidt as co-chairman; Mrs. Peter B. Mulligan, legislation; Mrs. John L. Flanigan, necrology; Mrs. Newton H. Stein, public relations; Mrs. John W. Conrad and Mrs. R. Guy Bashore, program; Mrs. Francis M. Quinn, archives; Mrs. J. William Jones, parliamentarian; Mrs. Waldemar T. Fedko and Mrs. William J. Cress, ways and means; Mrs. Williams A. Jacques and Mrs. John J. Moore, membership; Mrs. George O. O. Santee, clippings.

Delegates to the ninetieth annual session of the State Society reported, including Mrs. T. Lamar Williams, Mount Carmel; Mrs. Henry A. Dirschedl and Mrs. Hogan, Pottsville.

It was announced that a dance for the benefit of the Medical Benevolence Fund would be held Nov. 6 at the Fountain Spring Country Club, Ashland.

After the business meeting, tea was served. While tea was being served by Mrs. J. Edward McDowell and her committee, Mrs. John W. Conrad introduced a group of talented pupils of the Braun School of Music. Readings, piano duets and solos, and vocal selections were offered. There were 37 in attendance.

Westmoreland.—The meeting of the auxiliary was held on Oct. 8 at the Hotel Breniser, Ligonier. Luncheon was followed by a business meeting at which the president, Mrs. Paul G. McKelvey, presided. Reports from the recent state convention in Philadelphia were given. A gift was presented to Mrs. John H. Krick, of Export, retiring president, in honor of her year's service. Mrs. Charles C. Crouse, newly-elected state president-elect, was honored by flowers and a gift.

Mrs. Homer R. Mather, of Latrobe, was in charge of arrangements. Mrs. Charles D. Ambrose, of Ligonier, supplied beautiful fall flowers for decoration.

York.—Interesting reports on the convention of the State Auxiliary were given by Mrs. Elwood P. Flanders and Mrs. Norman H. Gemmill at the meeting of the auxiliary held in the Professional Building, York, on Nov. 8. Mrs. Flanders also told of the *Bulletin* which the National Auxiliary will publish in the near future and asked for subscriptions at one dollar per year.

Mrs. Thomas Monk, chairman of the program committee, outlined the events for the year.

Drs. William H. Treible, Pius A. Noll, and Clyde L. Seitz were appointed as advisors to the auxiliary from the medical society.

The meeting was arranged by Mrs. Fred F. Bergdoll and Mrs. Milton H. Cohen, co-chairmen, with Mrs. Jackson W. Allison, Mrs. Wallace E. Hopkins, and Mrs. J. Donald Conn assisting.

It was announced that Miss Gretchen Wehler was awarded a prize of \$5.00 for a poster which was displayed at the Philadelphia convention. The auxiliary planned to sew at the York Hospital on Oct. 15.

For complete discussion of Public Assistance Medical Service, see pages 331-334.

For complete discussion of the Free Laboratory Service of the State Health Department, see pages 326-329.

For complete discussion of Intern Shortage, see pages 320-324.

Variable Edema Duration

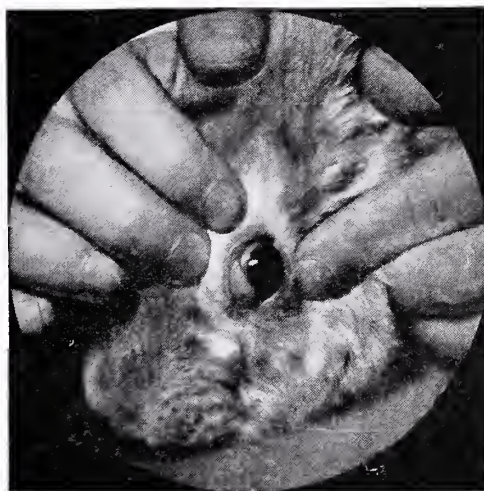
due to the varying methods of cigarette manufacture

(as shown by rabbit-eye test*)



Upon instillation of smoke
solution from *Philip Morris*
Cigarettes

Average duration
8 MINUTES



Upon instillation of smoke
solution from cigarettes made
by the *Ordinary Method*

Average duration
45 MINUTES

CLINICAL CONFIRMATION:**

When *smokers* changed to
Philip Morris, every case of irritation of the nose and throat
due to smoking cleared completely or definitely improved.

**Proc. Soc. Exp. Bio. and Med.*, 1934, 32, 241-245

***Laryngoscope*, 1935, XLV, No. 2, 149-154

Provisional Morbidity in Pennsylvania

September, 1940

Locality	Disease					Locality	Disease				
	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough		Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Aliquippa	0	0	2	0	1	New Castle	0	0	1	0	0
Allentown	1	3	3	0	28	New Kensington ...	0	0	1	0	0
Altoona	0	0	0	0	11	Norristown	0	0	0	0	1
Ambridge	0	0	0	0	0	North Braddock ...	0	0	0	0	0
Arnold	0	0	0	0	1	Oil City	0	0	0	0	2
Beaver Falls	0	1	1	0	0	Old Forge	0	0	0	0	0
Bellevue	0	0	0	0	2	Olyphant	0	0	0	0	0
Berwick	0	1	0	0	0	Philadelphia	1	168	61	5	216
Bethlehem	0	1	3	0	16	Phoenixville	0	0	0	0	1
Braddock	0	0	0	0	1	Pittsburgh	1	6	26	2	123
Bradford	0	1	3	0	6	Pittston	0	0	0	0	0
Bristol	0	0	0	0	0	Plymouth	0	0	1	0	2
Butler	0	0	3	0	1	Pottstown	0	0	0	0	3
Canonsburg	0	0	0	0	2	Pottsville	0	0	0	0	0
Carbondale	0	0	0	0	0	Reading	0	10	0	1	73
Carlisle	0	0	0	0	1	Seranton	1	0	2	0	1
Carnegie	0	0	0	0	1	Shamokin	0	0	0	0	0
Chambersburg	0	1	0	0	0	Sharon	0	37	0	0	0
Charleroi	0	0	0	0	0	Shenandoah	0	0	0	0	0
Chester	0	0	7	1	4	Steelton	0	0	1	0	2
Clairton	0	0	0	0	1	Sunbury	0	0	0	0	0
Coatesville	0	0	1	0	0	Swissvale	0	0	1	0	0
Columbia	0	0	1	0	0	Tamaqua	0	2	0	0	6
Connellsville	0	1	0	0	0	Taylor	0	0	0	0	0
Conshohocken	0	0	2	0	3	Turtle Creek	0	0	0	1	0
Coraopolis	1	0	0	0	2	Uniontown	0	0	0	1	0
Diekson City	0	0	0	0	0	Vandergrift	0	0	2	0	1
Donora	0	0	0	0	0	Warren	0	0	0	0	1
Dormont	0	0	0	0	0	Washington	0	0	4	0	4
Du Bois	0	0	0	0	5	Waynesboro	0	0	2	0	0
Dunmore	0	0	0	0	0	West Chester	0	0	2	0	7
Duquesne	0	0	0	0	0	Wilkes-Barre	2	1	3	0	0
Easton	0	0	1	0	2	Wilkinsburg	0	0	4	0	3
Ellwood City	0	0	2	0	1	Williamsport	1	2	2	0	6
Erie	0	9	7	0	51	York	0	0	4	0	12
Farrell	0	16	0	0	2	Townships					
Franklin	0	0	0	0	0	Allegheny County:					
Greensburg	0	0	0	0	6	Harrison	0	0	0	0	0
Hanover	0	2	1	0	2	Mt. Lebanon	0	0	0	0	2
Harrisburg	0	1	1	0	3	Stowe	0	0	0	0	0
Hazleton	0	1	0	0	2	Delaware County:					
Homestead	0	0	0	0	5	Haverford	0	0	0	0	4
Jeannette	0	0	0	1	0	Upper Darby	0	0	4	0	9
Johnstown	0	0	1	0	1	Luzerne County:					
Kingston	0	0	0	0	2	Hanover	0	0	0	0	0
Lancaster	0	3	2	0	16	Plains	1	0	0	0	0
Latrobe	0	0	0	1	0	Montgomery County:					
Lebanon	0	0	1	0	1	Abington	0	1	0	0	0
Lewistown	0	0	1	0	0	Cheltenham	0	0	0	0	0
McKees Rocks	0	0	0	0	1	Lower Merion ...	0	1	0	0	2
McKeesport	0	0	1	0	0	Total Urban ..					
Mahanoy City	0	0	0	0	0	Total Rural ...					
Meadville	0	0	0	0	0	Total State ...					
Monessen	0	0	2	0	0		9	269	167	13	656
Mount Carmel	0	0	0	0	0		31	49	151	24	520
Munhall	0	0	0	0	0						
Nantioke	0	0	0	0	0		40	318	318	37	1176

MEDICAL NEWS

Births

TO DR. AND MRS. FRANK E. BUTTERS, of Harrisburg, a son, Oct. 20.

TO DR. AND MRS. MITCHELL E. KATZ, of Allentown, a daughter, recently.

TO DR. AND MRS. FREDERIC E. SANFORD, of Sayre, a son, Frederic Goodman Sanford, 2nd, Oct. 2.

TO DR. AND MRS. WILLIAM J. HITSCHLER, of Philadelphia, a daughter, Christine Rehn Hirschler, Oct. 31.

TO MR. AND MRS. HERBERT W. GOODALL, JR., of Bryn Mawr, a son, Oct. 21. Mrs. Goodall is a daughter of Dr. and Mrs. Francis W. Sinkler, of Philadelphia.

Engagement

MISS IRMA KATHERINE HUBER and Harry E. Knox, M.D., both of Philadelphia.

Marriages

MISS MARY DOROTHY QUINN to Henry Pletcher Close, M.D., both of Philadelphia, Oct. 1.

MISS BARBARA BECHTEL, of Kissel Hill, to Henry B. Walter, M.D., of Lancaster, Sept. 20.

MISS OLGA KOMAS, R.N., of McKeesport, to George W. Olah, M.D., of Pittsburgh, June 22.

MISS MARY T. BEE, daughter of Dr. and Mrs. Charles H. Bee, of Indiana, to Mr. Charles M. Parks, Oct. 10.

MISS CHARLOTTE FULLERTON, of Swarthmore, to John J. Schoff, M.D., of Media, son of Dr. and Mrs. P. F. Schoff, of Dayton, Ohio, Nov. 8.

MISS MARCY CURTIN BROWN, of Haverford, to Mr. William Henry Scott Wells, of Philadelphia, son of G. Harlan Wells, M.D., Nov. 1, 1940.

Deaths

MRS. ALICE DILLINGHAM ATLEE, of Philadelphia, mother of Edward D. Atlee, M.D., Ardmore, and widow of Louis W. Atlee, M.D., aged 71, died Oct. 18.

HARRY LEONARD BAER, Pittsburgh; University of Pittsburgh School of Medicine, 1917; aged 47; died Oct. 3. Dr. Baer, a native of Pittsburgh, was born Apr. 3, 1893, a son of Townsend and Rachel Baer. He received his early education in the public schools, and was graduated from the Pittsburgh Central High School in 1912 and from the College Department of the University of Pittsburgh in 1913. Dr. Baer served his internship at the West Penn Hospital, Pittsburgh, 1917-1918. He pursued graduate studies at the Columbia University College of Physicians and Surgeons, New York, in 1927. He was a dermatologist. Dr. Baer was on the staffs of the Montefiore Hospital, Pittsburgh, the Pittsburgh Skin and Cancer Clinic, University of Pittsburgh Dental School (instructor in dermatology), City of Pittsburgh Tuberculosis Hospital (consultant dermatologist), and the Homestead Hospital (instructor in dermatology). He was a member of his county and state medical societies, a Fellow of the A. M. A., and a Fellow of the American Board of Dermatology. His medical fraternity was Phi Delta Epsilon. During the World War Dr. Baer served as a first lieutenant in the medical corps of the A. E. F. He was a member of the Veterans of Foreign Wars and the American Legion. In 1920 Dr. Baer was married to Lillian Mevis. His widow and 3 daughters survive.

ALEXANDER PARK BOAG, Clearfield; Temple University School of Medicine, 1934; aged 32; died at the Clearfield Hospital, Oct. 4, after a lengthy illness. Dr. Boag, a native of Boardman, was born July 21, 1908, a son of John and Jean (Patterson) Boag. He attended the Boardman Public School, and was graduated from Clearfield High School in 1926, and from Dickinson College in 1930. His internship was served at the Altoona General Hospital, 1934-35. Dr. Boag was on the adjunct staff of the Clearfield Memorial Hospital in the department of obstetrics and gynecology. He was a member of his county and state medical societies and a Fellow of the A. M. A. For 2 years he served as editor of the Clearfield County Medical Society *Bulletin*. Dr. Boag was medical inspector for the Lawrence Township School, and physician to the Clearfield Fire Department and Clearfield High School athletic department. He was a member of the county board of public assistance. Dr. Boag was married to Mary McKeehen in 1927, who with a son and a daughter, his father, 2 sisters, and 4 brothers survives.

GEORGE H. BOLLING, Pittsburgh; Howard University College of Medicine, Washington, D. C., 1904; aged 68; died Oct. 3. He was a member of his county and state medical societies and the A. M. A.

NICHOLAS FRANCIS BRECKER, Philadelphia; Medico-Chirurgical College of Philadelphia, 1907; aged 56; died Oct. 11. Dr. Brecker was born at Locust Gap, Jan. 20, 1884, a son of Nicholas and Margaret Brecker. He attended the local schools, and was graduated from the Shamokin High School in 1902. Dr. Brecker, who devoted his practice to ophthalmology, was on the eye clinic of the Presbyterian and the Philadelphia General Hospitals. For a number of years he was a member of the health department of the Board of Education in Philadelphia. He was a member of his county and state medical societies and the A. M. A. During the World War Dr. Brecker was a member of the Volunteer Medical Service Corps. He was married to Mary S. Holland in 1909. His widow, a daughter, and a son survive.

CARL GUILLE BROWN, Scranton; Jefferson Medical College of Philadelphia, 1909; aged 62; died in the Jefferson Hospital, Philadelphia, Sept. 13. Dr. Brown was born at Zanesville, Ohio, in 1878. He received his early education in the public schools there, later passing the pharmaceutical examinations in Ohio. For a few years he was engaged in pharmacy in Zanesville. Dr. Brown served his internship at the Jefferson Hospital in Philadelphia, followed by a one-year residency at that institution. He began the practice of medicine in Scranton in 1911, where he was on the staff of Mercy Hospital. For a time he was physician to the Y. M. C. A. in Scranton. Dr. Brown was a member of his county and state medical societies and the A. M. A. He enlisted in the Spanish-American War, at the end of which he was honorably discharged with the rank of major. He also saw service in the Boxer Rebellion in China. When the United States entered the World War, he enlisted in the U. S. Medical Corps and served for one year. Dr. Brown has no immediate survivors.

H. LENOX H. DICK, Darby; Jefferson Medical College of Philadelphia, 1909; aged 57; died Sept. 11, in the Phoenixville Hospital, of a heart attack. Dr. Dick was born in Philadelphia in 1883, a son of Mr. and Mrs. John Dick. He was graduated from the Boys' Central High School in Philadelphia. Dr. Dick served his internship at St. Mary's Hospital, Philadelphia. He was on the staffs of Delaware County and Fitzgerald-

Mercy Hospitals in Delaware County. Dr. Dick was a member of his county and state medical societies and a Fellow of the A. M. A. Surviving are his wife, Rebecca Verlenden Dick, a daughter, a son, and a brother.

MRS. CATHERINE DOYLE, of Ashley, mother of William J. Doyle, 2nd, M.D., of Wilkes-Barre, died Sept. 30.

OSCAR B. FELDSEER, Harrisburg; Jefferson Medical College of Philadelphia, 1933; aged 43; died at the Harrisburg Hospital after a long illness, Sept. 5. Dr. Feldseer, a native of Harrisburg, was born July 29, 1897, a son of Isaac and Lena (Katzman) Feldseer. He was graduated from the Harrisburg Central High School in 1914; Pennsylvania State College, 1918; and Lebanon Valley College and Susquehanna University, 1929. Dr. Feldseer served his internship at the Harrisburg Hospital, 1933-34. He was especially interested in internal medicine, and pursued graduate studies at the University of Michigan Medical School, Ann Arbor, in cardiology, in 1938; Harvard Medical School, Mass., 1937-38; Heart Station, Philadelphia General Hospital, 1937-38; and the Mayo Clinic, Rochester, Minn., 1939. He was a member of his county and state medical societies, the Harrisburg Academy of Medicine, and a Fellow of the A. M. A. His medical fraternity was Phi Delta Epsilon. He was business manager of the *Clinic* in 1933, and served as secretary-treasurer of the Southern Pennsylvania Chapter of the Jefferson Medical College Alumni Association from 1935 to 1937. Dr. Feldseer, who was a musician, served as student band leader at Pennsylvania State College, 1917-1918, and was a member of the collegiate fraternity Beta Sigma Rho. Dr. Feldseer, who was unmarried, is survived by his mother.

ALFRED OLIVER GERY, East Greenville; Jefferson Medical College of Philadelphia, 1893; aged 75; was killed Oct. 12 when hit by an automobile while walking along the road. Dr. Gery was born Feb. 8, 1865, at Palm, a son of Thomas H. and Mary (Burkholder)

Gery. He attended the local public school, and was graduated from the Perkiomen Seminary in 1885, and from the Keystone State Normal School, Kutztown, in 1887. He took special courses at the Keystone State Normal School during 1888 and 1889 and taught school at Palm for 2 years. Dr. Gery began the practice of medicine at Chapel, later moving to Palm. From 1905 until his death he resided in East Greenville. He was one of the oldest physicians in the Perkiomen Valley section. Dr. Gery was a member of his county and state medical societies and the A. M. A. In 1894 he was married to Sallie L. Gerhart, who died in 1929. In 1934 he was again married to Anna M. Clemmer, who with 2 daughters and a son survives.

GEORGE DORSEY GREEN, Lock Haven; University of Pennsylvania School of Medicine, 1899; aged 67; died Oct. 15 at the University of Pennsylvania Hospital, Philadelphia. Dr. Green was born at Barre, Nov. 8, 1873, a son of George Dorsey and Mary (Gregg) Green. He received his education at the Bellefonte Academy, and was graduated from the Pennsylvania State College in 1895. His internship was served at Mercy Hospital, Pittsburgh, 1899-1900. Dr. Green, who was a roentgenologist, pursued graduate studies at the University of Pennsylvania School of Medicine. He was on the staff (chief of department of roentgenology) at the Lock Haven Hospital. Dr. Green was a member of his county and state medical societies and the A. M. A. During the World War he served one year in France as commander of the 302nd Sanitary Train, 77th Division. At the time of death he was health officer of Clinton County. In 1903 Dr. Green was married to Rebekah Blanchard. His wife and 2 daughters survive.

CHARLES EDWIN HELLER, Williamsport; Jefferson Medical College of Philadelphia, 1890; aged 75; died at the Williamsport Hospital, Sept. 24, after a long illness. Dr. Heller was born at Northumberland, Feb. 15, 1865, a son of John Hillard and Mary Ann (Eckert) Heller. At age 11 he moved to Hall's Station, and received his early education in the local schools. Dr. Heller was on the staff of the Williamsport City Hospital (medical consultant), and was a member of the board of managers and the executive committee of that hospital. He was a member of his county (president, 1917) and state medical societies and the A. M. A. He was a member of the local draft board during the World War. Dr. Heller celebrated his fiftieth year of active medical practice in May, 1940, at which time he was made a nestor of the Lycoming County Medical Society. He was married to Caroline Castlebury in 1899. His widow, a son, and a daughter survive.

MRS. LUCY CLAYBAUGH HEWSON, Bryn Mawr, wife of the late Addinell Hewson, M.D., died at her home Nov. 13, aged 81. A daughter and 3 sons, one of whom is William Hewson, M.D., of Bryn Mawr, survive.

FRANCOIS LOUIS HUGHES, Abington; Hahnemann Medical College and Hospital of Philadelphia, 1898; aged 63; died of a heart attack at Hahnemann Hospital, as he was about to perform an operation, Oct. 14. A native of Philadelphia, Dr. Hughes was born Oct. 17, 1877, a son of James and Jane (Mooney) Hughes. He attended the local public schools and was graduated from the Boys' Central High School of Philadelphia in 1891. He served his internship, followed by a residency, at St. Luke's Hospital, Philadelphia. He was on the staffs of the following Philadelphia hospitals: St. Luke's (assistant gynecologist); Hahnemann (chief anesthetist); Women's Homeopathic (chief gynecologist); and the Abington Hospital (chief gynecologist). He was a member of his county and state medical societies and a Fellow of the A. M. A., also a member of the Germantown Medical Society (past president), Oxford Medical Society, West Jersey Medical Society, and his county, state, and national homeopathic medical societies. During the World War Dr. Hughes served as lieutenant in the U. S. Navy. He was Governor of the Gorgas

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Memorial Institute of Tropical Preventive Medicine at Panama. In 1906 Dr. Hughes was married to Margaret Johnson. His widow, a sister, and a brother survive.

DAVID KAUFMAN, Altoona; Jefferson Medical College of Philadelphia, 1908; aged 55; died Oct. 22 after an illness of several months. Dr. Kaufman, a native of Athens, and a son of Barney and Celia (Brooks) Kaufman, was born Mar. 28, 1885. He received his early education in the public and high schools of Athens. His internship was served at St. Joseph's Hospital, Philadelphia. Dr. Kaufman began the practice of medicine in Altoona, where he was on the staffs of the Mercy and the Altoona Hospitals. He was a member of his county and state medical societies and the A. M. A. During the World War Dr. Kaufman enlisted as first lieutenant in the U. S. Army and went overseas in November, 1917. He served with base hospitals at St. Lazarre, Lille, and Nancy in France. In October, 1918, he was promoted to captain and became a major later. He returned from France Sept. 10, 1919, and was honorably discharged from the army in November, 1919. Dr. Kaufman was married to Dora Klevan in 1921. His widow, 4 sons, a sister, and 2 brothers survive.

FRANCIS TWINING KRUSEN, Norristown; Harvard Medical School, Boston, 1913; aged 51; died of heart disease in the Riverview Hospital, Norristown, Sept. 29. Dr. Krusen was a son of Edward A. Krusen, M.D., deceased, and Elizabeth Krusen. He was a native of Collegeville, born Aug. 19, 1889. Dr. Krusen received his early education in the local schools, and was graduated from Ursinus Academy in 1905, and from Ursinus College in 1909. Following his graduation from Harvard Medical School, he studied for one year at the Hahnemann Medical College and Hospital of Philadelphia, graduating in 1914. His internship was served at Hahnemann Hospital, Philadelphia, 1914-1915. Dr. Krusen did graduate work at the Polyclinic Hospital, New York, in 1920. He was located in Norristown during the 25 years of his medical career, and was on the staffs of the Sacred Heart (associate medical chief) and the Riverview Hospitals. Dr. Krusen was a member of his county and state medical societies and a Fellow of the A. M. A., also a member of the Schuylkill Valley, Tri-County (president, 1936), homeopathic county and state medical societies, the American Institute of Homeopathy, and the Pennsylvania Physical Therapy Society. He was on the Board of Trustees of Ursinus College. Dr. Krusen was married to Mabel A. Knauer in 1915, who with 2 daughters and a son survives.

STEPHEN SHAFFER LANDIS, Harrisburg; University of Pittsburgh School of Medicine, 1911; aged 53; died of a coronary attack, Sept. 27. Dr. Landis was born at Steelton, Aug. 16, 1887, a son of Elias S. and Emma Landis. He was graduated from Duquesne High School in 1907, and from the University of Pittsburgh in 1911. Dr. Landis served his internship at the Mercy Hospital, Pittsburgh, 1911-12. He pursued graduate studies at the New York Postgraduate Hospital and the University of Vienna. He began the practice of medicine at Duquesne, and 5 years later moved to Harrisburg, where he practiced until his death. He specialized in surgery. Dr. Landis was a member of his county and state medical societies, the Harrisburg Academy of Medicine, and a Fellow of the A. M. A. During the World War he served at a base hospital in France. At the close of the war he was honorably discharged with the rank of major. He was in the Medical Reserve Corps of the U. S. Army. In 1921 Dr. Landis was married to Mary Lau, who survives.

JOHN ROSS SMITH MARTIN, Philadelphia; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1904; aged 58; died Oct. 9. Dr. Martin was born at Swarthmore, Apr. 15, 1882, a son of Joseph R. Martin, M.D., and Abigail (Smith) Martin. He received his early education in

the public schools of Swarthmore, and was graduated from Stewartstown Academy in 1898 and from Mt. Hermon (Mass.) College in 1900. His internship was served at the University of Maryland Hospital (Baltimore). He pursued graduate studies at Harvard Medical School, Boston, in 1913. Dr. Martin began the practice of medicine at Christiana and remained there for 18 years, when he moved to Philadelphia. He specialized in internal medicine, and was on the staff of the Graduate Hospital of the University of Pennsylvania. He was a member of his county and state medical societies and a Fellow of the A. M. A. He was a former member of the Lancaster County Medical Society. During the World War Dr. Martin was appointed a first lieutenant and served as surgeon in the Marncliffe War Hospital, Sheffield, England, in the British Service. He was a member of the Officers' Reserve Corps of the U. S. Army. Dr. Martin was married to Marie Flanagan in 1918. His wife and 2 sons survive.

EDWARD BROWNING MEIGS, Washington, D. C., chief of the Division of Nutrition and Physiology of the United States Department of Agriculture, died Nov. 5, aged 61. Dr. Meigs was a native of Philadelphia. He was graduated from the University of Pennsylvania School of Medicine in 1904. He was the son of Dr. and Mrs. Arthur V. Meigs of Philadelphia. Besides his wife, 4 children survive.

MRS. JESSIE MILLER, widow of the late James A. Miller, M.D., of Clearfield County, died Oct. 15.

WILLIAM REBHORN, aged 19, and his sister, Lois Rebhorn, aged 18, the son and daughter of Dr. and Mrs. Earl H. Rebhorn, of Scranton, were instantly killed Nov. 7, shortly after 8 p.m., by a bomb "planted" in the family automobile parked in front of the Rebhorn home, and presumably arranged for discharge either by

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a connection to the accelerator or one of the doors. The 2 children had left the house to make a purchase, and hardly had gone a minute when the blast occurred. Dr. Rebhorn was appointed Director of Public Health of Scranton 3 years ago.

MONROE T. SMITH, Warren; Medico-Chirurgical College of Philadelphia, 1889; aged 74; died at his home suddenly of a heart attack, Oct. 20. Dr. Smith was born at Warren, Aug. 31, 1866, a son of Peter M. and Sarah (Porter) Smith. His early education was received at the Quaker Hill school. He later attended Clinton Liberal Institute, Fort Plains, N. Y., where he remained for one year. For the next year he was a student in the medical department of Syracuse University. During the summers he studied under the late Drs. Pierce and Bartholomew, of Warren. Dr. Smith began the practice of medicine at Muncie, Ind., returning to Ludlow, Pa., at the end of a year. In 1902 he moved to Warren, where he practiced until his death. Dr. Smith was on the staff of the Warren General Hospital from 1902 until 1938. He was a member of his county (president in 1912 and in 1926) and state medical societies and the A. M. A. He was awarded a certificate by The Medical Society of the State of Pennsylvania for his record of over 50 years in the practice of medicine. Dr. Smith was married to Laura F. Wilson May 16, 1888. His widow, a daughter, 4 sons, and a brother survive.

CHARLES ROWLAND STEWART, Millvale (Allegheny County); University of Pennsylvania School of Medicine, 1899; aged 67; died Aug. 31. He was a member of his county and state medical societies and the A. M. A.

GISELA VON POSWIK, Scranton; Woman's Medical College of Pennsylvania, 1911; aged 65; died Oct. 2, after an illness of 2 years. Dr. von Poswik was born at Naumburg, a/Salle, Germany, a daughter of Count Napoleon and Maria Johanna (Lieskau) von Poswik. She became a United States citizen in 1919. Dr. von Poswik specialized in radiology. She received her education at Hohere Tochtterschule of Naumburg, a/Salle, and at Miss Taylor's Private School, London, England. She did graduate work at the State Village for Epileptics, Skillman, N. J., 1911-1912; Universitäts-Frauenklinik, Halle, a/Salle, Germany, 1912; University of Berlin, 1913; Universitäts Clinic of Frankfurt a/Main, Germany, and Rontgeninstitut-Hans Holfelder, Germany. She studied gastro-intestinal diagnosis under Dr. H. U. Albrecht, Germany; dermatology under Prof. Gans, Virchow-Kranken-Haus, Berlin, Germany, Central-Rontgeninstitut, Vienna, Austria; and dermatology in Vienna in 1931. Dr. von Poswik, who was a registered nurse, received the degree of F.A.C.R. in 1937. She was roentgenologist to the Hahnemann Hospital, Scranton, from 1916 to 1918. Dr. von Poswik was a member of her county and state medical societies and a Fellow of the A. M. A. She was a contributor to the medical literature, and the first woman physician in America to have her own roentgen-ray equipment. She was unmarried.

Miscellaneous

JOSEPH MCFARLAND, M.D., Philadelphia, has been appointed professor of general pathology at the School of Dentistry, Temple University, Philadelphia.

AT THE ANNUAL MEETING of the Indiana State Medical Association, held October 29-31 at the French Lick Springs Hotel, Ralph R. Mellon, M.D., Pittsburgh, read a paper on "Sulfathiazole."

AT THE SECOND VENEREAL DISEASE CLINIC DAY of the Ingham County Medical Society, Michigan, held at the Hotel Olds, Lansing, Nov. 7, Percy S. Pelouze, M.D., of Philadelphia, read a paper on "Treatment of Gonorrhea in the Male."

JOHN A. KOLMER, M.D., professor of medicine in charge of bacteriology and immunology, Temple University School of Medicine, Philadelphia, addressed the Chicago Medical Society, Nov. 6, on "The Present Status of Chemotherapy."

CARL P. HUBER, M.D., associate professor of obstetrics, Indiana University School of Medicine, has received the 1940 award of the Central Association of Obstetricians and Gynecologists for the best clinical essay on "Blood Prothrombin Levels in the Newborn."

AT A STATED MEETING of the College of Physicians of Philadelphia, held Nov. 6, at 8:30 p. m. at the Hall of the College, the eighth S. Weir Mitchell oration was delivered by John F. Fulton, M.D., Sterling professor of physiology, Yale University, on "Neurology and War."

THE NEW ENGLAND POSTGRADUATE ASSEMBLY held its annual session Nov. 13-14 at Harvard University. The speakers from Pennsylvania were Drs. Percy S. Pelouze, "The Urinary Bladder in Health and Disease," and Thomas Grier Miller, "The Causes of Indigestion and Their Recognition." Both speakers are from Philadelphia.

THE PHILADELPHIA PEDIATRIC SOCIETY.—The Frederick A. Packard Memorial Lecture was given Nov. 12 at 8:30 p. m., at the Hall of the College of Physicians, on "Physiologic Peculiarities of the Premature Infant and Certain of its Handicaps," by Samuel Z. Levine, M.D., professor of pediatrics, Cornell University Medical School, New York City.

WE EXTEND APPRECIATION to the Woman's Medical College of Pennsylvania for a bound copy of 6 lectures on "Medical Genetics and Eugenics," which were delivered at the college in March, 1940, in connection with the ninetieth anniversary of the founding of the college. The lecture series and the bound volume were made possible through the generosity of a graduate of the college, who prefers to remain anonymous.

OVER 600 DERMATOLOGISTS from all parts of the United States and Canada are expected to be in Chicago for the third annual meeting of the American Academy of Dermatology and Syphilology at the Palmer House, Dec. 8 to 11. The officers are: President, Harry R. Foerster, M.D. (Milwaukee); vice-president, Clark W. Finnerud, M.D. (Chicago); treasurer, Clyde D. Cummer, M.D. (Cleveland); and secretary, Earl D. Osborne, M.D. (Buffalo).

THE BOARD OF DIRECTORS of the Philadelphia County Medical Society announce that at a meeting held on Oct. 9 they elected Frederick C. Smith, M.D., M.Sc. (Med.), of Philadelphia, editor of *The Weekly Roster and Medical Digest* to fill the vacancy caused by the death of Samuel Horton Brown, M.D. The *Roster* is the official publication of the Philadelphia County Med-

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ical Society. We extend congratulations to the newly elected editor.

HARRISON S. FLIPPIN, M.D., of Philadelphia, was one of the 2 speakers selected by the Medical Institute of the University of Toledo for its Seventh Annual Postgraduate Day, Nov. 1. During the morning session Dr. Flippin discussed "Pharmacology, Method of Administration, and Toxicity of Sulfonamides." His subject during the afternoon session was "Chemotherapy in Special Medical Infections," and his subject at the evening session was "Chemotherapy of Respiratory Diseases."

THE OLD YORK ROAD BRANCH of the Montgomery County Medical Society has recently been organized. Members of the Bucks County Medical Society are invited to become members and to attend the meetings, which will be held in conjunction with the staff meetings at Abington Memorial Hospital on the third Tuesday evening of every month from October to May. The first meeting was held on Nov. 10 at 9:30 p.m. The officers are: Elwood T. Quinn, M.D., president; Harold B. Shaw, M.D., vice-president; and M. Luther Kauffman, M.D., secretary-treasurer, Medical Arts Building, Jenkintown.

THE SUBJECT FOR THE COMPETITION of this year for the Sir Henry Wellcome Prize was "Medical and Sanitary Care of the Civilian Population Necessitated by Attacks from Hostile Aircraft." The paper that obtained the highest rating was that of Captain Lucius W. Johnson, Medical Corps, U. S. Navy. This carries the award of the Wellcome Medal and prize of \$500. Second place was awarded the paper of Captain Harold C. Lueth, Medical Reserve, U. S. Army, of Evanston, Ill., who received the first honorable mention and a life membership in the association. A second honorable mention without other reward was given to the paper of Major William L. Wilson, Medical Corps, U. S. Army.—*The Military Surgeon*, November, 1940.

AMERICAN COLLEGE OF SURGEONS.—The thirtieth annual clinical congress of the American College of Surgeons was held in Chicago during the week of Oct. 21. Evarts A. Graham, M.D., St. Louis, was installed as president, succeeding George P. Muller, M.D., of Philadelphia. W. Edward Gallie, M.D., of Toronto, was named president-elect and other officers were elected as follows: Clarence G. Toland, M.D., of Los Angeles, first vice-president; Albert C. Furstenberg, M.D., of Ann Arbor, Mich., second vice-president. Ross G. McIntire, M.D., Surgeon General of the United States Navy, received an honorary fellowship, and a number of fellows were initiated into the college.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY.—In accordance with its Articles of Incorporation, the American Board of Obstetrics and Gynecology has elected Norman F. Miller, M.D., of Ann Arbor, Mich., and Willard R. Cooke, M.D., of Galveston, Tex., as members, directors, and examiners to fill the unexpired terms of Jennings C. Litzberg, M.D., and Grandison D. Royston, M.D., both of whom resigned on Oct. 15. These replacements make a total of 4 changes in personnel on the board during the past 3 years.

AMERICAN PUBLIC HEALTH ASSOCIATION.—The registered attendance at the sixty-ninth annual meeting of the American Public Health Association and meetings of related organizations held in Detroit the week of Oct. 7 was 3187, second largest in the association's history. The officers elected for the year 1940-1941 are as follows: President, Waller S. Leathers, M.D., Nashville, Tenn.; president-elect, John L. Rice, M.D., New York; vice-presidents, Robert D. Defries, M.D., Toronto, Charles Edward Finlay, M.D., Havana, Cuba, and Selskar Gunn, M.D., New York; treasurer, Louis I. Dublin, Ph.D., New York; chairman of executive board, Abel Wolman, Dr. Eng., Baltimore, Md.; executive secretary, Reginald M. Atwater, M.D., New York, N. Y.

WILLIAM C. TROXELL, M.D., of Allentown, was recently elected an officer of Rotary International. He was named Governor of District 179 by delegates representing the 5000 Rotary clubs of the world at the annual international convention in Havana, Cuba. Dr. Troxell is a member of the staff and radiologist of the Allentown General Hospital. As a District Governor of Rotary International, he will visit the Rotary clubs of 46 Pennsylvania cities which comprise the 179th district and will counsel with and advise club officers on matters pertaining to Rotary service activities and club administration. He will hold office until the 1941 convention in Denver, Colo., next June.

THE HARRISBURG ACADEMY OF MEDICINE held its 1940 Postgraduate Assembly, Nov. 14, at the Harrisburg Academy of Medicine Building, Harrisburg. The following program was presented: Frederick S. Wetherell, M.D., Syracuse, N. Y., spoke on "The Nodular Goiter—Its Inherent Dangers." W. Blair Mosser, M.D., Kane, secretary of the American Association for the Study of Goiter, presented "Problems in the Diagnosis and Treatment of Hyperthyroidism." Chevalier L. Jackson, M.D., professor of broncho-esophagology, Temple University School of Medicine, Philadelphia, presented "Broncho-esophagology in Relation to General Medicine." Temple Fay, M.D., professor of neurology and neurosurgery, Temple University School of Medicine, Philadelphia, presented "Further Observations on Refrigeration in Human Beings." The annual dinner was served at the Penn-Harris Hotel.

THE SEVENTH INSTITUTE ON THE EXCEPTIONAL CHILD, under the auspices of the Child Research Clinic of The Woods School, a private school for exceptional children at Langhorne, Pa., was held Oct. 22. The following program prevailed:

At the morning session, Chairman Carl C. Fischer, M.D., associate in pediatrics, Hahnemann Medical College and Hospital, Philadelphia, presided. Walter O.

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Klingman, M.D., associate attending neurologist at Babies' Hospital and at the Neurological Institute, New York, presented "Life Begins"; Harry Bakwin, M.D., associate professor of pediatrics, New York University, New York, discussed "Infant Training"; and Donovan J. McCune, M.D., assistant professor of pediatrics, College of Physicians and Surgeons, Columbia University, New York, spoke on "Primary School Training." At the afternoon session, Chairman Charles W. Dunn, M.D., Graduate School of Medicine, University of Pennsylvania, Philadelphia, presided. G. Kirby Collier, M.D., Rochester, N. Y., presented "Growing Up"; Irving Pardee, M.D., clinical professor of neurology, Columbia University, and chief of service, Neurological Institute, New York, discussed "Adolescence"; and Clemens E. Benda, M.D., Wrentham State School, Wrentham, Mass., presented "Life Span."

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA.—The Obstetrical Society of Philadelphia visited the Woman's Medical College of Pennsylvania on Oct. 10. The members were particularly interested in the "Cancer Prevention Clinic" and in the "Follow-Up Clinic for Cancer Patients" conducted by the Department of Gynecology. Two deliveries and a Toxemia of Pregnancy Clinic were conducted by the Department of Obstetrics.

Margaret C. Sturgis, M.D., has been elected second vice-president of the Obstetrical Society of Philadelphia for the year 1940-41.

The Lecture Forum is presenting a group of speakers during the year. The 2 papers which have already been given were by Esther L. Richards, M.D., associate professor of psychiatry, Johns Hopkins Medical School, on "The Nervous Child of Tomorrow," and by John A. Kolmer, M.D., professor of medicine, Temple University School of Medicine, on "Immunity in Syphilis with Special Reference to the Role of Spirochaeta Pallida in the Wassermann Reaction."

Margaret D. Craighill, M.D., dean of the college, Helen M. Angelucci, M.D., '27, and Ruth Ellis-Lesh, M.D., '33, were made Fellows of the American College of Surgeons in Chicago on Oct. 21.

The Committee on Therapeutic Research of the Council on Pharmacy and Chemistry of the American Medical Association has granted to Esther M. Greisheimer, M.D., professor of physiology, \$250 to investigate the effects of sulfanilamide and related compounds upon blood sugar and liver glycogen.

The following papers have been presented recently by members of the faculty: On Sept. 16, by Ralph E. Bell, M.D., on "Heart Disease of Middle Life," before the American Association of Railway Surgeons, in Chicago. On Sept. 21, by Margaret C. Sturgis, M.D., on "The Role of the General Practitioner in the Prevention of Uterine Cancer," before the York County Medical Society. On Oct. 22, by Hubley R. Owen, M.D., on "Fractures of the Tibia and Fibula Treated with Skeletal Traction and the Braun-Böhler Splint," before the American College of Surgeons, in Chicago. On Oct. 22, Esther M. Greisheimer, M.D., read a paper on "The Effects of Repeated Doses of Cyclopropane" by Dr. Greisheimer, Roberta Hafkesbrung, and Hulda Magalhaes, before the International Congress of Anesthetists, in Chicago.

POSTGRADUATE SEMINARS.—For many years the Montour County Medical Society has pioneered in conducting postgraduate seminars for physicians of the various contiguous counties. Most of these have been held at the Geisinger Memorial Hospital. In addition to the larger seminars held several times each winter (the first of which was on Nov. 8), it is planned to hold a series of more intimate seminars on special subjects under the direction of the Geisinger Memorial Hospital staff. These are being planned to be of special and practical value to the man in general practice, and are limited to 25 physicians because of the importance of utilizing bedside cases clinically and the desirability of

having small groups. The seminars will be held once a week throughout the fall, winter, and spring on each Wednesday afternoon at 2 p. m. All the various facilities of the Geisinger Hospital will be utilized. No charges are to be made. On Nov. 15 all seminars were filled.

The schedule of the seminars is as follows:

Cardiovascular Disease—Differential Diagnosis and Treatment, conducted by Wendell J. Stainsby, M.D., Nov. 6, 13, and 20.

Urology of General Practice—Office Diagnosis and Treatment, conducted by Walter I. Buchert, M.D., Nov. 27, Dec. 4 and 11.

Obstetrics and Obstetric Management, conducted by Roy E. Nicodemus, M.D., Jan. 8, 15, and 22.

Office and Bedside Differential Diagnosis of Common Surgical Conditions, conducted by Harold L. Foss, M.D., Jan. 29, Feb. 5 and 12.

Office Surgery, Including the Handling of Fractures and Dislocations, conducted by Leonard F. Bush, M.D., Feb. 19, 26, and Mar. 5.

Acute and Chronic Upper Respiratory Disease; Office Treatment and Diagnosis, conducted by Francis W. Davison, M.D., Mar. 12, 19, and 26.

PENNSYLVANIA PSYCHIATRIC SOCIETY.—The second annual meeting of the Pennsylvania Psychiatric Society was held at the Bellevue-Stratford Hotel in Philadelphia as a dinner meeting on the evening of Oct. 3. William C. Sandy, M.D., president, presided. The meeting was attended by 68 members and 19 guests.

The scientific presentations were as follows: "Mental Hygiene," by Appleton H. Pierce, M.D., Coatesville. Discussion by Howard K. Petry, M.D., Harrisburg. "Treatment of the Neuroses by Class Technic," by Samuel B. Hadden, M.D., Philadelphia. Discussion by LeRoy M. A. Maeder, M.D., Philadelphia. "First Impressions of Electroshock Treatment in the Psychoses," by Lauren H. Smith, M.D., Joseph Hughes, M.D., and Donald W. Hastings, M.D., Department of Mental and Nervous Diseases of the Pennsylvania Hospital, Philadelphia. Discussion by John F. Stouffer, M.D., Philadelphia.

Officers were elected as follows: President, Henry I. Klopp, M.D., Allentown; president-elect, Baldwin L. Keyes, M.D., Philadelphia; secretary-treasurer, LeRoy M. A. Maeder, M.D., Philadelphia.

Councilors: (2 years) Arthur P. Noyes, M.D., Norristown, William W. Richardson, M.D., Mercer, and Thomas A. Rutherford, M.D., Scranton; (1 year) James S. Hammers, M.D., Lancaster, Charles H. Henninger, M.D., Pittsburgh, William C. Sandy, M.D., Harrisburg, and Joseph C. Yaskin, M.D., Philadelphia.

Auditors: Herbert C. Woolley, M.D., Philadelphia, 3 years; George J. Wright, M.D., Pittsburgh, 2 years; and Leslie R. Chamberlain, M.D., Danville, 1 year.

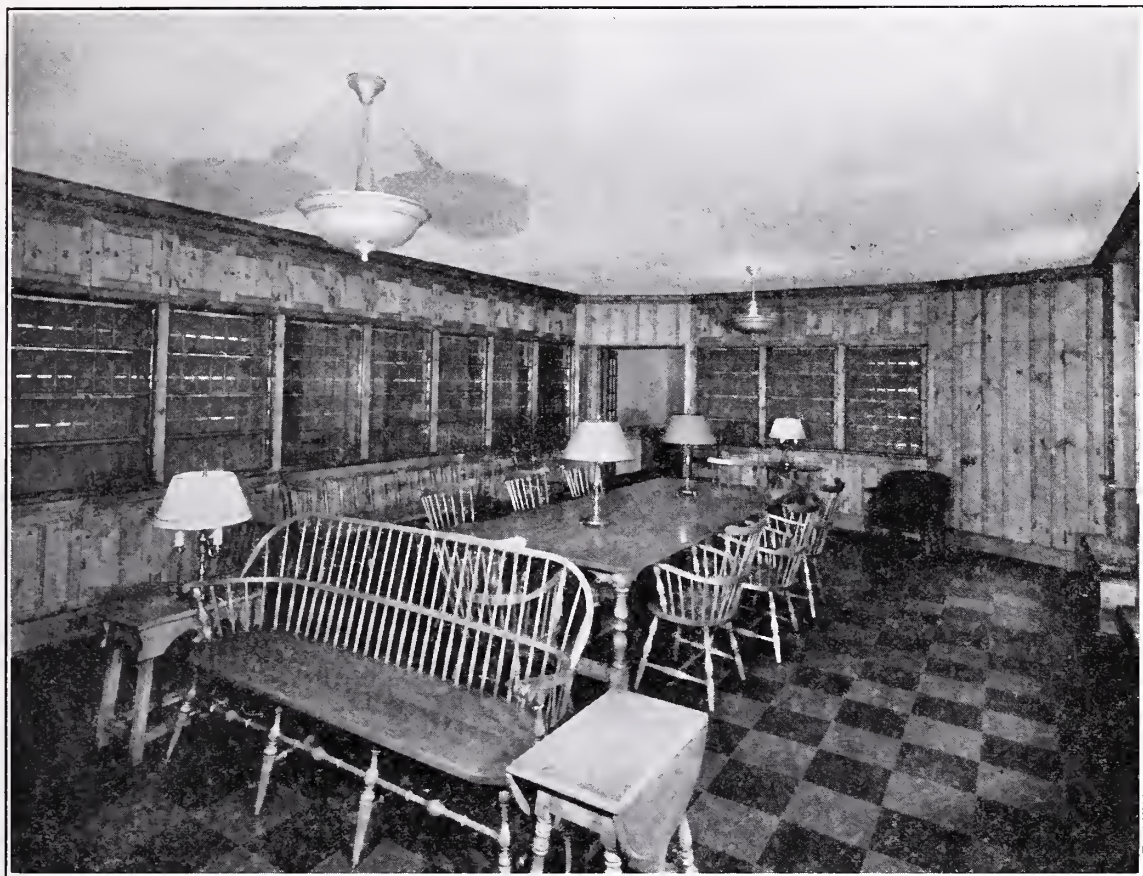
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BOOK REVIEWS

DR. COLWELL'S DAILY LOG FOR PHYSICIANS, 1941. Colwell Publishing Co., Not Inc., Champaign, Ill. Price, \$6.00.

One of the essential prerequisites of a successful medical practice is the thoroughness with which the business details of that practice are recorded. Obviously, any plan which will facilitate making such records is worthy of careful investigation and adoption. The day of the makeshift bookkeeping system is definitely gone, just as definitely as the horse and buggy. Time after time the physician of today is called upon to produce carefully recorded and complete records of financial dealings with his patients.

Dr. Colwell's Daily Log has been a boon to physicians for many years and I unhesitatingly recommend it to the medical profession because it is the most complete and at the same time the simplest bookkeeping system. It is issued annually in a single volume. Provisions are made within its confine for the record of services rendered to each patient with the financial status in each instance. A single page is given over to each day's work. A single summary sheet is found at the end of each month with provisions to carry over the grand totals from the previous month. All expenditures, both deductible and nondeductible, are entered and carried over from month to month. Provisions are also made for the record of surgical operations, narcotics dispensed, and special appointments. Summary sheets for obstetric reservations and records of death are likewise provided. At the end of the book is found a spread sheet upon which the annual summary of income and expense is made. This summary sheet makes the compilation of income tax very simple.

In all, this volume is very attractively compiled and invites continued record keeping. Your reviewer recommends it warmly to any physician who takes pride in keeping dependable records.

SYNOPSIS OF OBSTETRICS. By JENNINGS C. LITZENBERG, M.D., F.A.C.S., professor emeritus of obstetrics and gynecology, University of Minnesota Medical School, Minneapolis. St. Louis: The C. V. Mosby Company, 1940. Price, \$4.50.

One of the most beneficent gifts a teacher can leave to posterity or, perhaps to express it in a better way, for younger contemporaries is a textual record of his demagogic and clinical experience. Works of this character invariably prove worth-while contributions to practical literature.

It is clear that Dr. Litzenberg had the compilation of this present volume in mind during his occupancy of the chair of obstetrics and gynecology in the Medical School of the University of Minnesota, but like others similarly engaged he was completely occupied in the manifold duties associated with the supervision of his department.

After reviewing his "Synopsis of Obstetrics," I was glad he postponed the preparation of the work until he became professor emeritus. In following this course Dr. Litzenberg was provided abundantly with man's wisest counselor, time. He was thereby able to employ his pen with less interruption and above all he was enabled to embody in this volume those invaluable personal ideas, observations, and conclusions gleaned in many years of a rich clinical experience.

That is precisely what Dr. Litzenberg has accomplished in a most systematic little work of 38 chapters with 359 pages of text and 157 vivid illustrations.

Scientific books are generally prepared for 4 groups

of individuals, including reference or research workers, teachers, practitioners, and students. Dr. Litzenberg's "Synopsis of Obstetrics" will find a warm welcome among these groups, especially the general practitioner and undergraduate student.

PHYSICAL DIAGNOSIS (Elmer and Rose). Revised by HARRY WALKER, M.D., F.A.C.P., associate professor of medicine, Medical College of Virginia, Richmond, Va. Eighth edition, with 295 illustrations and 792 pages. St. Louis: The C. V. Mosby Company, 1940. Price, \$8.75.

No single textbook can give the student all of the knowledge he needs in the practice of medicine, and unless one desires to compile an encyclopedia, certain reasonable bounds in any given subject should be observed. In the case of the textbook under discussion, overambition has resulted in an incompleteness and a diffuseness which detract from the clarity of the work. It attempts to be a textbook not only of physical diagnosis, which it certainly is, but also a textbook of differential diagnosis, which it certainly is not. Too much is mentioned cursorily or in outline form. From such incomplete and only partially developed ideas, the busy student is apt to come away with a feeling of confusion. Indeed, it is doubtful whether he derives lasting benefit from such material. Happily, this condition applies chiefly to the first 100 pages and to the chapter on the neuropsychiatric examination, the psychiatric section of which could conveniently have been omitted.

The well-written and orderly presentation of the chapters on diseases of the cardiovascular and respiratory systems compensate abundantly for the defects mentioned. Of definite merit are the nearly 300 illustrations and roentgen-ray photographs with which the text is interlarded. A chapter by Drew W. Luten, M.D., on electrocardiography has been included. Porter P. Vinson, M.D., contributes a few pages on bronchoscopy, esophagoscopy, and gastroscopy as diagnostic methods.

ESSENTIALS OF THE DIAGNOSTIC EXAMINATION. By JOHN B. YOUNG, M.D., B.A., M.S., associate professor of medicine and director of postgraduate instruction, Vanderbilt University Medical School. The Commonwealth Fund, New York, 1940. Price, \$3.00.

This book is written on the basis of the author's experience in teaching physical diagnosis and clinical laboratory methods to practitioners during the past 10 years, and it is an expansion of the outlines used in these courses. Consequently, the author has the viewpoint of the general practitioner especially in mind. The book is divided into 3 parts. In the first, 2 long chapters are devoted to the history and the physical examination. In the second are presented the clinical laboratory tests of urine, feces, sputum, gastric contents, exudates and body fluids, spinal fluid and blood studies, the latter being especially complete and including the routine counts, clotting and bleeding time, resistance to hemolysis, sedimentation rate, blood grouping and matching, and a chapter on blood chemistry. The technical methods are presented as well as the clinical significance, the latter being necessarily brief. However, the author has succeeded in packing the essential features of the clinical application of these tests into very compact form. In the third section very valuable suggestions

are given as to the office laboratory; chemicals, reagents, and stains; and a final chapter on collateral reading.

The book is brief, concise, and admirably presented. Just how useful it would be to a general practitioner who is not already familiar with laboratory technic, or who is not taking a postgraduate course in diagnostic methods, is questionable. After all, laboratory technic is not easy. It calls for experience and constant practice, as well as expensive equipment maintained in perfect condition, in all of which it is like surgery or any other specialty. Therefore, this book should not be purchased by a physician with the thought that its use alone will make possible an accurate and reliable office laboratory. On the other hand, used in conjunction with postgraduate training, it is a valuable aid.

DIABETES. Practical Suggestions for Doctor and Patient. By EDWARD L. BORTZ, A.B., M.D., F.A.C.P., associate professor of medicine, Graduate School of Medicine, University of Pennsylvania; chief of Medical Service B, The Lankenau Hospital, Philadelphia; assistant editor, *The Cyclopaedia of Medicine*. With a foreword by GEORGE MORRIS PIERSOL, B.S., M.D., F.A.C.P., professor of medicine, Graduate School of Medicine, University of Pennsylvania; editor-in-chief, *The Cyclopaedia of Medicine*. Second edition, revised and enlarged. Illustrated. Philadelphia: F. A. Davis Company, 1940. Price, \$2.50.

This new book enables the intelligent diabetic to cooperate readily with his physician, to understand clearly his condition, and to live a happy and useful life.

Dr. Bortz has incorporated much new knowledge for the handling of diabetic and obese patients. He has enlisted the aid of a number of outstanding specialists to deal with different phases of the subject.

While covering every advance in treatment and every need of the patient, this book is in no way intended as a substitute for the physician. It will help him by saving a lot of time and patience in prescribing a greater variety in the choice of foods and a more easily carried out diet plan.

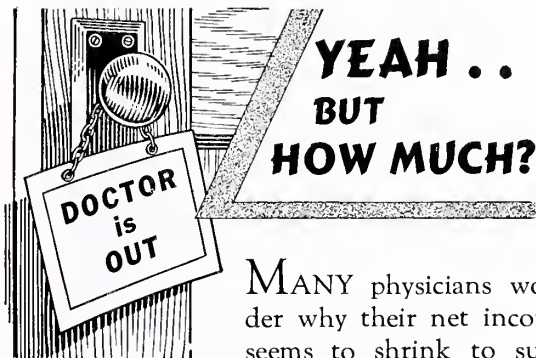
From both the patient's and the physician's viewpoint, it is a most practical presentation. For the busy practitioner, this handbook, supplemented by the diet cards, is a practical time-saving desk assistant. The patient will find the answer to his many questions concerning the disease.

A few of the special features of Dr. Bortz' book include the following: Modernized diabetic diets with more accurate food percentages, new and simplified method for estimating quantities of foods, the type of shoes to be worn by diabetics, prophylactic measures and care of the teeth, new information on the surgery of the diabetic, combined insulin prescriptions, exercises for patients who are overweight, new substitute food lists, and a clear and complete glossary of medical terms.

The separate diet card simplifies the prescribing of dietaries in terms of the kitchen and should be kept on hand at all times.

COMPENDIUM OF REGIONAL DIAGNOSIS IN LESIONS OF THE BRAIN AND SPINAL CORD. By R. BING, professor of neurology, University of Basel, Switzerland. Translated and edited by W. Haymaker, assistant clinical professor of neurology and lecturer in neuro-anatomy, University of California. 292 pages, with 125 illustrations, including 27 in color and 7 plates. St. Louis: The C. V. Mosby Company, 1940. Price, \$5.00.

The publication of the eleventh edition of Bing's small compendium, first published in 1909, expresses more eloquently than words can the popularity of this book. Since its original appearance there has been an increase in size and scope. The general arrangement has been



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maintained in all editions. Spinal cord lesions are considered first. The only additions to this chapter in the present edition are a roentgenogram showing erosion of the neural arches from spinal tumors and 3 roentgenograms showing lipidol studies.

The chapter on the brain stem gives a good anatomic description of the various levels with diagrams illustrating the relationships. But minor additions to this chapter are to be noted, including Cestan-Chenais' syndrome and the syndrome of tumors situated close to the foramen magnum. There is a more systematic presentation of the nerve groups within the brain stem.

The only addition to the chapters on cerebral localization is a little more detail concerning basal ganglia lesions, but this is far from complete. No one can get a clear concept of this very important phase of neurology from the 7 pages devoted to it, much of which is taken up by diagrams and pictures. Three roentgenograms of the skull give but a smattering of how the roentgen ray can help in localization of gross brain lesions.

Viewed as a whole, there is little change in the subject matter and its presentation in the eleventh edition. Those who do not have one of the recent previous editions will do well to add this little book to their libraries.

BIOCHEMISTRY OF DISEASE. By MEYER BODANSKY, PH.D., M.D., director of the John Sealy Memorial Laboratory and professor of pathologic chemistry, University of Texas School of Medicine, and OSCAR BODANSKY, PH.D., M.D., lecturer in biochemistry, Graduate Division, Brooklyn College, formerly biochemist, Children's Medical Division, Bellevue Hospital, and instructor, Department of Pediatrics, New York University College of Medicine. New York: The Macmillan Company, 1940. Price, \$8.00.

The authors in presenting this monograph have made available a reference to the biochemical aspects of most of the common diseases. Not only is one told what to expect in the various diseases but how to go about the necessary laboratory procedure. For those who want to carry their investigations beyond the realm of this book a very complete bibliography is found at the end of each chapter. This is more than a laboratory guide—a brief description of the diseases and the steps that lead up to biochemical changes makes it a workable and practical reference. The style, illustrations, and tables are worthy of commendation.

DIAGNOSIS AND TREATMENT OF DISEASES OF THE HAIR. By LEE MCCARTHY, M.D., member of the American Dermatological Society, attending dermatologist to Garfield Memorial Hospital, consulting dermatologist to the U. S. Naval Hospital and to the Hospital for Tuberculosis, Washington, D. C. With 291 illustrations including 7 in color. St. Louis: The C. V. Mosby Company, 1940. Price, \$9.50.

This work includes diseases of the hair and hair follicles of all parts of the body and also other skin diseases which frequently affect the skin of the hairy portions of the body. The book is very complete, nicely arranged, and carries a comprehensive index. The illustrations including drawings of infected hairs by Bescin are excellent. As a reference book for any practitioner, it can be highly recommended. Several of the chapters, which include the history and evolution of our knowledge of some of the diseases, make very interesting reading. This is particularly true in regard to the section on fungus diseases. Use of this volume as a reference would do much to increase interest in and knowledge of diseases of the hair. Treatment of the various conditions is given considerable space and includes many useful prescriptions.

CANCER IN CHILDHOOD. And a Discussion of Certain Benign Tumors. Edited by HAROLD W. DARGEON, M.D., F.A.A.P., attending pediatrician, Memorial Hospital for Cancer and Allied Diseases, New York. Illustrated. St. Louis: The C. V. Mosby Company, 1940. Price, \$3.00.

The book is well illustrated and the descriptions are excellent. The treatments are not only given in detail but what results one should expect are recorded also. It is the only book of its kind in existence, as far as I know. It is so clear that it is indispensable to the tumor clinics where a quick reference is required. Both the rare and commonplace diseases are fully covered. It points out that there must be reference books for the tumor clinics where there is no reticence about giving others credit for their studies. Full credit is given throughout the entire book to others for their work. Each subject is covered by an authority on that special subject.

I can fully recommend the book.

ARTHRITIS AND ALLIED CONDITIONS. By BERNARD I. COMROE, A.B., M.D., F.A.C.P., instructor in medicine, University of Pennsylvania; ward physician, Hospital of the University of Pennsylvania. 752 pages, illustrated with 200 engravings. Philadelphia: Lea & Febiger, 1940. Price, \$8.50.

Bernard I. Comroe's first and welcome book proves a desirable and most useful addition to any practicing physician's frequently consulted desk library. The volume is written with one main object in view; namely, how best may the author prove of the greatest service to the reader.

This book answers many questions that arise in each day's office consultations and, equally important, it stimulates the imagination and encourages, by means of excellent chapter references, further studies. The chapters entitled "The Painful Shoulders," "Painful Feet," "Backache," "Sciatica," "Fibrositis," and "Spondylitis" can be read with benefit by any physician who deals with the garden variety of human ailments. The reviewer prophesies that Dr. Comroe will write other books and he ventures to hope that each succeeding book may prove as helpful to the general practitioner of medicine as will the present volume.

NEW AND NONOFFICIAL REMEDIES, 1940, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1940. Pp. 656-LXVIII. Chicago: American Medical Association, 1940. Cloth. Price, postpaid, \$1.50.

Each year a revised list of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association as of Jan. 1 is published in book form under the title of "New and Nonofficial Remedies." The book contains the descriptions of acceptable proprietary substances and their preparations, proprietary mixtures if they have originality or other important qualities, important nonproprietary nonofficial articles, simple pharmaceutical preparations, and other articles which require retention in the book.

A list of articles and brands accepted by the Council, but not described, is included in the book to cover simple preparations or mixtures of official articles (U. S. P. or N. F.) marketed under descriptive, nonproprietary names for which only established claims are made. Diagnostic reagents, which are not used in or on the human body, and protein diagnostic preparations are not included in New and Nonofficial Remedies unless the determination of the status of these products by the Council has been requested by the distributor. If such products are found to be marketed in accordance with the Council's rules, they may be included in the list of undescribed, but acceptable articles.

New and Nonofficial Remedies is a practical and condensed text of pharmacology and therapeutics; it contains scientifically elaborated standards for all accepted nonofficial drugs; its Index to Distributors is a list of manufacturers, a large number of whose products have met the Council's high standards; its Bibliographical Index is a storehouse of references to reports which have been made mainly on unaccepted and unacceptable drugs; its prefatory material contains the Council's "Rules," a time-tested and reliable set of basic principles for the furtherance of scientific and rational medicine.

A supplement to the annual volume of *New and Nonofficial Remedies* is published twice a year to bring up to date such current revisions and additions as have been necessary since its previous publication. Every product included in the book is subject to the official rules of the Council. The comments to rules are changed occasionally by way of clarifying interpretation to insure fair consideration of all submitted preparations as new standards are recognized. Such constant and critical consideration of its contents provides the physician with a valuable reference list of acceptable new preparations on which to base his selection for use in treatment according to the established current practices of the profession.

The 1940 *New and Nonofficial Remedies*, of course, contains the revisions which appeared in the supplements for the 1939 edition, and continues the plan of grouping together articles having similar composition or action under a general discussion. These discussions have undergone considerable revision in the 1940 edition. Further revision of statements regarding the actions, uses, dosage, composition, purity, identity, strength or physical properties of many of the articles has also been necessary in some cases. Noteworthy revisions are those of the chapter on Liver and Stomach Preparations, radically rewritten and including a statement of requirements suggested by findings of the Anti-Anemia Preparations Advisory Board of the U. S. Pharmacopeia; the subsection Tuberculin, entirely rewritten to conform to newer knowledge in this field; and the chapter Allergic Protein Preparations, the name of which has been changed to Allergic Preparations. Minor but relatively important revisions are found in the articles: Bismuth Compounds, Serums and Vaccines, and Vitamins and Vitamin Preparations for Prophylactic and Therapeutic Use.

The indices of the new volume of *New and Nonofficial Remedies* are of the same order and plan as in previous editions. A general index lists accepted articles, including those not described. This is followed by an index to distributors in which appear all the Council-accepted articles listed under their respective manufacturers. Finally, a bibliographic index is added for listing proprietary and unofficial articles not included in N. N. R. This includes references to the Council publications concerning each such article as has appeared in *The Journal of the A. M. A.*, Reports of the Council on Pharmacy and Chemistry, Propaganda for Reform, Vol. 1 and 2, or Reports of the A. M. A. Chemical Laboratory.

ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY of the American Medical Association for 1939 with the comments that have appeared in *The Journal of the A. M. A.* Pp. 205, with 5 illustrations. Chicago: American Medical Association, 1940. Cloth. Price, \$1.00.

Only 7 of the 35 reports listed in this annual collected report are of the familiar "Not Acceptable" or condemnatory type. Two reports announce omission of products from N. N. R., one being off the market. The remainder, far superior in bulk as well as in number, are concerned with educational and constructive considerations. This trend has been noticeable in recent

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years; it reflects the great predominance of the constructive over what may be called the destructive side of the Council's work of promoting rational therapeutics.

The educational reports touch 3 fields on which lie the front lines of present-day therapeutics progress—chemotherapeutics, endocrines, and vitamins. Two reports on sulfapyridine deal with the status and Council acceptance of commercial brands. The report on Neoprontosil recognizes that term as the Winthrop Chemical Company's proprietary name for 4-sulfonamide benzene-2-azo-1-hydroxy-7-acetyl amino naphthalene-3:6-disodium sulfonate, and azosulfamide as the nonproprietary name for the same substance. The articles on Dilantin Sodium, Sobisminol Mass, and Sobisminol Solution are status reports which accompanied the descriptions of accepted brands, a type of article increasingly used by the Council. Dilantin sodium is the new drug used in the treatment of epilepsy and has been accepted by the Council with carefully stated limitations for its use; sobisminol mass and sobisminol solution are new soluble bismuth preparations for use in the treatment of syphilis; they are noteworthy in that sobisminol mass has been shown to be effective when used orally. The reports on racéphedrine and nikethamide deal with nomenclature; these terms are recognized as nonproprietary names for racemic ephedrine (the sulfate and hydrochloride are also recognized) and pyridine-B-carboxylic acid diethylamide respectively; the latter was introduced into medicine under the proprietary name Coramine-Ciba and was the subject of a preliminary report by the Council in 1929 (*The Journal*, June 1, 1929, p. 1837).

The status report on questions concerning vitamins compiled by the Co-operative Committee on Vitamins of the Councils on Pharmacy and Chemistry and on Foods is becoming an almost annual event, awaited for the revisions of the "Allowable Claims" found acceptable for the various vitamins. This year's revisions are not extensive, but the report is noteworthy for the re-emphasis of the Council's stand on the subject of vitamins and vitamin mixtures. Alas, the Council's is but one clear, authoritative voice of rationality in today's whirlwind of polyvitamin and polyvitamin-mineral absurdities foisted on the gullible public by astute and sophisticated advertising technic. The preliminary and supplementary reports by Snell and by Snell and Butt on the new principle for active hemorrhagic diathesis known as "vitamin K" are timely and noteworthy.

The leadership of the Council in matters of endocrine therapeutics and nomenclature is well sustained by such reports as Chorionic Gonadotropin, Assay Standards for Chorionic Gonadotropin, Stilbestrol, and the Present Status of Testosterone Propionate: Three Brands, Perandren, Oreton, and Neo-Hombreol Not Acceptable for N. N. R. No brand of any of these has been accepted and these reports are excellent justification of the Council's intelligent and well-informed conservatism in this as in other matters.

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Every precaution has been taken to insure accuracy in these advertisements and in this index, but there is no guarantee against errors or omissions.

For complete discussion of Public Assistance Medical Service, see pages 331-334.

For complete discussion of the Free Laboratory Service of the State Health Department, see pages 326-329.

For complete discussion of Intern Shortage, see pages 320-324.

Three "special" reports are worthy of mention. One is the warning report on the dosages of intra-urethral injection of solutions of local anesthetics, a reaffirmative strengthening of previous Council pronouncements. One is the Council statement, Manganese in the Treatment of Dermatologic Disorders, which is buttressed by the conclusive and well-documented paper of Maurice Sullivan, M.D., considered and sponsored by the Council. The third is the Study of the Promiscuous Use of the Barbiturates, Their Use in Suicides, a paper by Walter E. Hambourger, M.D., based on a review of medical literature and study of vital statistics. This study was authorized by the Board of Trustees of the A. M. A. and will be followed by other papers dealing with other aspects of the problem.

The present annual volume of Council reports is somewhat larger than usual and somewhat above the average issue in interest.

URGES SYMPATHY FOR DRAFTEES

Do not follow the hard-boiled drill sergeant's methods of handling recruits and draftees. Be firm but kind and show a little sympathy to the new soldier.

This is the advice Brigadier General Raymond F. Metcalfe, Medical Department, U. S. Army, gave to members of the American College of Surgeons, many of whom will soon be medical officers assigned to duty with America's new defense army.

"Remember, the medical officer and the chaplain are the only officers who can show a little sympathy for the new soldier without lowering discipline," General Metcalfe stated.

Many of the men coming to the physician's office at the dispensary or hospital will be not seriously ill, but tired, homesick, and suffering disturbed body functions as a result of the complete change in habits required by Army life.

If there is any doubt of illness, the man should be sent to quarters or the hospital at once rather than waiting until he becomes seriously ill, General Metcalfe said, warning that measles may be the first serious condition developing among the recruits and draftees, and may be followed by pneumonia and empyema. Prompt isolation of the measles patient may stop this disabling sequence.

Sodium amytal, familiar to many civilians as a sleeping medicine, should be given to every seriously wounded soldier picked up by battalion surgeons and hospital corps men before the wounded man is sent to the rear, General Metcalfe advised in outlining plans for handling the wounded if we should get into war.

Many lives may be saved by this measure, he said, because sodium amytal has been found to delay for 10 hours or longer the onset of shock, which is a grave danger in battle wounds. — *Science News Letter*, Nov. 2, 1940.

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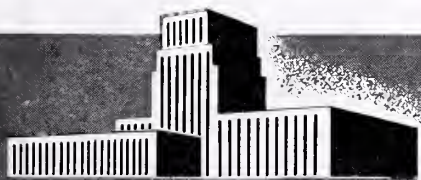
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*Arch. Otolaryng. 17:787, 1933



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.. THE .. PENNSYLVANIA MEDICAL JOURNAL

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LETTERS

Prize Winners

GENTLEMEN:

I wish to thank The Medical Society of the State of Pennsylvania through the columns of THE PENNSYLVANIA MEDICAL JOURNAL for awarding me a prize for my health poster. I love to draw and paint and am happy to know that you liked my work.

HELEN WESSIER,
Allentown, Pa.

GENTLEMEN:

I wish to thank you and through you The Medical Society of the State of Pennsylvania for the check for \$15 which was sent to me for the poster I had entered in the Health Poster Contest.

I am proud of the fact that I was able to enter the contest and that I won a prize.

EARL F. GLOCK, JR.,
Johnstown, Pa.

GENTLEMEN:

Please accept my sincere thanks for the poster prize of \$2.50 which was so kindly awarded me by the Committee on Public Relations.

I am very proud of my achievement, and so glad that you liked my poster, for I enjoyed planning and painting it.

JEAN WEIRBACH,
Allentown, Pa.

GENTLEMEN:

I wish to express my appreciation to The Medical Society of the State of Pennsylvania for awarding to me the third prize in the annual Health Poster Contest.

ANNE BASSLER,
Lancaster, Pa.

These letters were sent in by winners in the state-wide Health Poster Contest sponsored by the Committee on Public Relations.

Every county society should sponsor a local contest each year (see report on page 500).—
THE EDITORS.

Allergy

GENTLEMEN:

The Third Annual Forum on Allergy will be given Jan. 11 and 12 at Indianapolis.

In response to an apparent demand, the Annual Forum on Allergy was founded 3 years ago by a group of outstanding allergists in the Middle West to provide an organization in which to review the progress of clinical allergy. Annual meetings have been held in Toledo, Ohio, and Chicago, Ill. This meeting offers to the internist, the pediatrician, the dermatologist, the otolaryngologist, and all other physicians an opportunity to bring themselves up to date in this field of medicine over a single week-end. All physicians in good standing in their local medical society are most welcome. There will be a registration fee of \$5.

I do hope that you can find space in THE PENNSYLVANIA MEDICAL JOURNAL to tell your readers about this

rather unique meeting. I should like to call your attention to the immense amount of ground covered in one week-end and to the variety of instructional methods which are used. It is of interest to know that the topics for discussion were recently chosen by those who attended last year and that 146 of these same physicians are now registered for the coming session. Dr. Bela Schick will be given the Gold Medal Award for his outstanding contributions to the field of allergy.

Anything which you can do to interest the physicians of Pennsylvania in this meeting will be greatly appreciated.

JONATHAN FORMAN, M.D.,
1005 Hartman Theater Building,
Columbus, Ohio.

Authors' Reprints Wanted

GENTLEMEN:

I am directed by the Surgeon General to inform you that authors' reprints are gratefully received at the Army Medical Library. They are placed in a special collection catalogued by author and thus form a ready bibliography of the work of any given writer and a valuable supplementary source of material when the volume of original publication is temporarily unavailable at the bindery or on loan.

Editorial notice of this collection would be appreciated.

HAROLD W. JONES, *Librarian*,
War Department,
Army Medical Library,
Washington, D. C.

Orthopsychiatric Meeting

GENTLEMEN:

The eighteenth annual meeting of the American Orthopsychiatric Association, an organization for the study and treatment of behavior and its disorders, will be held at the Hotel Pennsylvania, New York City, on Feb. 20, 21, and 22, 1941. A registration fee will be charged for nonmembers. A preliminary program will be sent on request.

HELEN B. LANGNER, M.D.,
Chairman, Publicity Committee,
1790 Broadway,
New York, N. Y.

Social Hygiene Day

GENTLEMEN:

National Social Hygiene Day will be observed for the fifth time on Feb. 5, 1941. This Fifth Social Hygiene Day will be the spearhead of a concerted drive to safeguard men in military and naval training camps and in essential industries from the ravages of venereal disease. The effort this year is aimed at reducing commercialized prostitution to a minimum and keeping syphilis and gonorrhea infection rates as low as possible in army, navy, and defense industrial personnel.

Plans for the annual event include more than 5000

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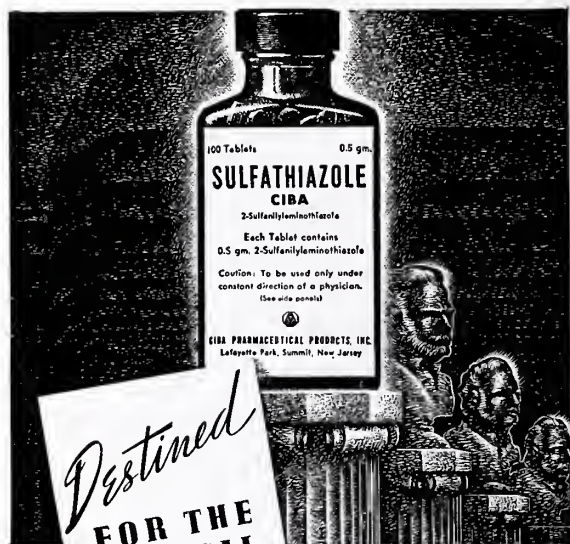
Here is a view that shows most of the 200 acres and the 67 buildings in their park-like setting at Pearl River, New York (near Nyack).

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community meetings in all parts of the country and 4 regional conferences to be held in Philadelphia, St. Louis, New Orleans, and Los Angeles.

Speaking at a recent meeting of social hygiene executives and medical officers in Washington, Ray Lyman Wilbur, M.D., president, American Social Hygiene Association, and former Secretary of the Interior, called upon the public and civilian officials to co-operate in making their communities safe from infection.

"The fundamental issue in this social and medical question," Dr. Wilbur said, "is what support will the public itself and the civilian officials give in cleaning up conditions near camps and keeping them clean. The Army and Navy want their men healthy and sound, and will do what they can to keep them so. We know enough now to control these diseases, but do we have the applied common sense to do so? It will mean that we must fight greed and entrenched political forces. With the experience of the World War we ought to give the world an example of applied preventive medicine in stopping the spread of venereal diseases."

We invite health, civic, and welfare leaders, as well as others desiring information concerning participation in Social Hygiene Day, to write us.

WALTER CLARK, M.D., *Executive Director*,
American Social Hygiene Association,
1790 Broadway,
New York, N. Y.

BEQUEST FOR FELLOW STAFF MEMBERS

The late William L. Estes, M.D., of Bethlehem, sixty-first president of The Medical Society of the State of Pennsylvania, included a bequest in his will to eventually reach St. Luke's Hospital, of which the physician was chief surgeon emeritus, "to start a fund to endow a separate apartment for the free treatment of members of the staff in good standing for at least 2 years."

There is plenty of evidence in the official transactions of The Medical Society of the State of Pennsylvania that Dr. Estes for more than 50 years was an outspoken devoted supporter of all that the organized medical profession stands for.

That he was always independent in his thinking is, we believe, set forth in a quotation from his 1907 presidential address appearing on page 1736 of the September, 1940, PENNSYLVANIA MEDICAL JOURNAL, in which in connection with a discussion of "pure altruism" and graduate medical education he stated that "those claiming altruism as a motive in pursuing postgraduate work might well acknowledge frankly that much done in the name of altruism is for an expected return." To those willing to acknowledge this, Dr. Estes had advised, "We always insist upon arraying the facts to be marshalled for this purpose demonstrative of the fact that our postgraduate efforts lead to better conditions in the communities, to better health, to an increase of life, happiness, and productiveness, permitting, thereafter, the results to speak for themselves."—*Pittsburgh Medical Bulletin*, Nov. 9, 1940.



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Since it was first unveiled at Rockefeller Center, New York, during the Summer of 1936, the Transparent Woman exhibit has been viewed by more than eight million people. It has been exhibited in many of the important cities in America and at several medical conventions. Wherever it has been shown it has been accorded a significant welcome. The world of medicine has paid tribute to the science, skill and purpose which made this exhibit possible -- and the lay world has acclaimed this figure for its part in dispensing authentic knowledge of the complicated internal structure of the female body. The exhibit was recently donated as a permanent one to the Medical Section of the great Museum of Science and Industry, Jackson Park, Chicago, where it is our hope she will continue to awaken additional millions of people to a better understanding of their physical selves and the vital importance of professional medical counsel.

"In the years since the Transparent Woman exhibit has been on display I have been amply rewarded for my part in her creation by the wide interest the public has shown in her. I should like to express my appreciation to the hundreds of physicians and the many medical societies under whose auspices this exhibit has been displayed in principal cities throughout the nation."

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Recent Studies on the Diagnosis of Hypothyroidism in Children

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WHEN marked thyroid deficiency has existed over a considerable span of time during the early years of childhood, it gives rise to the classical clinical pictures described as cretinism or juvenile hypothyroidism, which are readily recognized. Marked differences of opinion have arisen as to what are the signs of hypothyroidism in patients not presenting the frank, typical picture. The probable existence of borderline forms or of thyroid disturbances combined with other endocrine deficiencies should not be denied, nor should the therapeutic trial of thyroid be discouraged in doubtful cases. However, the insufficiency of our present knowledge and the difficulties of accurate diagnosis should be emphasized. This paper is an attempt to evaluate the signs which may be of importance in diagnosis.

Classification of Physical Signs

In adults the familiar physical signs of hypothyroidism depend upon the lowered rate of metabolism, alterations in the circulation, or abnormalities in chemical processes which cause changes in the skin, hair, subcutaneous tissues, or muscle. During childhood thyroid deficiency causes other abnormalities due to its influence upon growth and development.

In Table I the most important signs resulting from hypothyroidism during the period of growth have been divided into anatomic alterations in body structure and functional or physiologic abnormalities.

Structural Changes

The structural changes which are most characteristic and readily recognized are caused by defective growth and development of the skele-

ton. Changes in other body structures are less characteristic and are encountered less constantly. Frequently the hair and skin are normal, and changes in the subcutaneous tissues may not be recognized.

Stunted Growth.—The rate of growth is always slowed in hypothyroidism. If thyroid deficiency begins in early life and remains untreated, the child lags further and further below the normal height, so that he becomes classified as a dwarf. However, if thyroid deficiency does not occur until later childhood, for example, the tenth or twelfth year, the patient already may have exceeded dwarfed dimensions before the cessation of growth.

Infantile Skeletal Proportions.—The proportions of the upper and lower skeletal segments are determined by measuring the lower skeletal segment from the symphysis pubis to the soles of the feet, and the upper from the symphysis to the top of the skull. The ratio changes during childhood because of a more rapid growth of the lower segment.* In the hypothyroid dwarf the ratio remains that of a younger child, corresponding to the height of the patient rather than his age. Most dwarfs who are not hypothyroid attain skeletal proportions normal for their actual age.

Infantile Naso-orbital Configuration.—During hypothyroidism the nasal structures fail to develop normally. If the deficiency dates from early childhood, the naso-orbital configuration remains infantile, so that the nose is short, and the nasal bridge is broad and flat, causing the eyes to appear widely spaced.

Retardation of Osseous Development.—Thyroid deficiency always causes delay in the appearance of ossification of the cartilaginous centers, and treatment of a hypothyroid patient with thyroid accelerates the rate of ossification. We have found that by following the rate of osseous development during treatment we can

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* The normal measurements of the upper and lower skeletal segments at different ages or heights are shown in the tables compiled by W. Engelbach.

TABLE I
CLASSIFICATION OF SIGNS

Structural Changes	Skeleton	Height—stunted
		Skeletal proportions $\frac{\text{upper}}{\text{lower}}$ segments—infantile
		Naso-orbital development—infantile
		Osseous development—retarded
		Dental development—retarded and defective
Other Structures		Epiphyseal dysgenesis—frequently present
		Brain development—retarded
		(Skin—variable)
		(Hair—variable)
		(Subcutaneous tissues—variable)
Functional Changes		Physical and mental torpor
		Peripheral circulation poor—skin pale, grayish, cool
		Pulse rate and pulse pressure—decreased
		(Sweating—variable)
		Constipation
		Biochemical and metabolic changes

determine whether the dose of thyroid given is sufficient to cause the patient to approach the normal level of development. On the other hand, there is no justification for considering that endochondral ossification is controlled by the thyroid alone, or for basing a diagnosis of hypothyroidism entirely upon the finding of delayed ossification. Many dwarfs who present no evidence of thyroid insufficiency, and who fail to respond to therapy, show degrees of osseous retardation just as marked as do hypothyroid patients.

Defective Dental Development.—The eruption of the teeth is always delayed and the teeth which are formed during the period of thyroid deficiency are defective in structure and undergo early caries.

Epiphyseal Dysgenesis.—In hypothyroidism there occurs a disorder of the cartilages of the epiphyses and round bones which causes abnormalities in their subsequent ossification. Instead of proceeding in an orderly manner from a single focus in the center of the cartilage, ossification arises in multiple irregular foci scattered over a considerable area. As these enlarge and coalesce, they present in the roentgen-ray picture either a stippled, porous, or fragmented appearance. The abnormality is most commonly observed in the head of the femur, where it resembles Perthes' disease. However, Perthes' disease is a destructive process affecting an epiphysis which has previously been normally formed, whereas in hypothyroidism there is an abnormality in the development of the cartilage and its conversion into bone. The characteristic changes may be found in all the endochondral centers in which ossification normally occurs during the period

when thyroid deficiency exists. The writer found epiphyseal dysgenesis in 23 out of 25 hypothyroid children. Not only are those centers affected which have already calcified before thyroid treatment is begun but, also, centers whose ossification has been delayed develop in the characteristically abnormal manner, even after the institution of therapy.

Retardation and Defect in Brain Development.—When thyroid deficiency occurs in the early years of life, it causes delay in the development of the brain; and if it is untreated, permanent damage may result. If hypothyroidism does not occur until the later years of childhood, there may be no defect in the brain development; and the intelligence quotient may be normal, even though the patient may be mentally sluggish and slow in response.

Diagnostic Significance of Structural Changes.—As we have pointed out, the most important structural changes occurring in thyroid deficiency are caused by a retardation or distortion of normal processes of development. When all or most of these anatomic changes are present, the clinical picture is usually unmistakable. However, some of the abnormalities such as dwarfing, osseous retardation, or a suggestive facies may be found in children who are not hypothyroid, and may lead to mistaken diagnoses. To attribute anatomic evidence of delayed development to thyroid deficiency, one should find confirmatory signs of diminished thyroid function, such as physical and mental sluggishness, circulatory changes, and metabolic or clinical abnormalities.

Under certain circumstances hypothyroidism may occur during childhood without causing anatomic changes. Such abnormalities are found only when the deficiency occurs during the years when the important developmental processes are taking place, and when it exists for a sufficient length of time to allow the deviation from normal development to become obvious. If hypothyroidism develops in a late period of childhood, when the more mature characteristics of the skeleton already have been attained, structural abnormalities are usually absent or of mild degree. If the deficiency is of short duration, the deviation from normal may not be appreciable; and if any thyroid treatment has been given, anatomic changes may be absent. Since thyroid deficiency might exist without any characteristic structural abnormalities, the diagnosis of atypical or borderline forms of hypothyroidism or of mixed endocrine disturbances must depend upon functional rather than anatomic studies.

Functional Changes

Mental sluggishness and physical inactivity are shown to some degree by all patients with hypothyroidism. The torpor and slow mental reactions characteristic of hypothyroid children are distinct from retarded or defective development of the brain and disappear rapidly on treatment.

Diminution in cardiac output and circulatory rate are constantly present. Although the pulse rate is usually decreased and the pulse pressure diminished, the accurate measurement of circulatory changes is difficult and unreliable in children. A pale grayish color of the cheeks and lips and circulatory mottling of the skin are evidences of decreased peripheral circulation. These are usually seen in hypothyroid children, and, indeed, they are encountered with such regularity that one should hesitate to make a diagnosis of hypothyroidism in a child with bright, ruddy cheeks and lips.

To devise a more exact and objective method of diagnosing thyroid deficiency the clinician has had to turn to certain laboratory methods which will be discussed.

Basal Metabolism.—The measurement of the basal metabolic rate in children is unreliable, partly because of the difficulty in obtaining cooperation, and partly because of difficulties in selecting the proper standard for comparison. When the metabolic rate can be accurately measured, a comparison with surface-area standards commonly used, such as the Boothby-Sandiford standard, shows that both hypothyroid children and obese children presenting no evidences of hypothyroidism have low metabolic rates. However, when a comparison is made to the Talbot height standards, hypothyroid children show low metabolic rates, while obese children who are not hypothyroid have normal or even elevated rates. Occasionally we have seen children who have low basal metabolic rates even with the height standards, and yet present no symptoms or signs of thyroid deficiency. We do not believe that it is justifiable to base a diagnosis of hypothyroidism exclusively on the basal metabolic rate. The increasing popularity of the metabolism machine in the physician's office is responsible for a growing number of ill-considered diagnoses.

Serum Cholesterol and Creatine Excretion in Untreated Hypothyroid Children.—The author, W. Fleischmann, and W. Block found that the cholesterol of normal children is between 100 and 300 milligrams per cent, a greater range than reported by some authors. In the majority of hypothyroid children the cholesterol is be-

tween 250 milligrams per cent and 600 milligrams per cent, but sometimes it is as low as 150 milligrams per cent. Since the ranges of cholesterol found in normal and in hypothyroid cases overlap, a cholesterol value below 300 milligrams per cent does not exclude thyroid deficiency. A concentration above this is very suggestive of hypothyroidism if other causes of hypercholesterolemia, such as diabetes, nephrosis, or liver disease, are not present.

There is a tendency for the creatine excretion to be low in the hypothyroid child, but it may be just as low in normal children. It is, therefore, impossible to differentiate the untreated hypothyroid child from the normal children on the basis of creatine excretion. Likewise, we have not found the creatine tolerance test of diagnostic value.

Sensitivity to a Standard Dose of Thyroxin Measured by the Effect Upon the Serum Cholesterol and Urinary Creatine.—J. H. Means and others have emphasized that it is more important diagnostically to observe the effect upon the basal metabolic rate of the administration or the withdrawal of thyroid than merely to measure the basal metabolic rate of the untreated patient. Because of the difficulties of determining accurately the basal metabolic rate in children, the author, Fleischmann, and Block measured the serum cholesterol and the urinary creatine in studying sensitivity to thyroid. After injecting a single dose of 5 milligrams of thyroxin in the hypothyroid child, there was a decrease in the serum cholesterol amounting to 120 to 230 milligrams per cent. The effect lasted from 30 to 70 days before the cholesterol returned to its previous level. In the normal child the same dose of thyroxin caused only a slight and transient effect; the concentration of cholesterol decreased only 0 to 64 milligrams per cent and returned to the previous level within 10 days. The study of creatine excretion after the injection of thyroxin showed less difference between the hypothyroid and control groups because thyroxin causes an increased creatinuria in some normal children.

The Effect of the Withdrawal of Thyroid Medication Upon the Serum Cholesterol.—When thyroid medication was discontinued, the writer found that the serum cholesterol of hyperthyroid children rose to high levels, usually between 300 and 600 milligrams per cent within 8 to 12 weeks. A similar rise did not occur in normal children who had previously been treated with desiccated thyroid. It is of interest that when thyroid therapy was discontinued, the cholesterol concentrations of the hypothyroid children fre-

TABLE II
SUMMARY OF BIOCHEMICAL STUDIES

	<i>Hypothyroid</i>	<i>Not Hypothyroid</i>
Basal metabolic rate—Before treatment		
Surface-area standard	—19 to —40%	—10 to —28% (obesity)
Height standard	—14 to —33%	+40 to —15% (obesity)
Cholesterol—		
Before treatment		
Range for group	150-600 mg.%	100-300 mg.%
Spontaneous fluctuations	200 mg.%	83 mg.%
Creatine—		
Before treatment	0.0-3.8 mg./Kg./day	0.6-7.8 mg./Kg./day
Sensitivity to 5 mg. thyroxin		
Cholesterol decrease	120-229 mg.%	0-76 mg.%
Average duration of effect	38 days	9 days
Withdrawal of thyroid treatment		
Cholesterol increase	98-411 mg.%	10-64 mg.%
Thyrotropic hormone effect		
On creatine output	Negative	Positive or "false negative"

quently reached higher levels than had been observed before the institution of treatment. These observations are of considerable practical diagnostic value, particularly in children who have been treated elsewhere and have lost all their stigmata of hypothyroidism before coming under observation. If the previous diagnosis is open to question, thyroid medication can be discontinued and the cholesterol observed over a period of 8 to 12 weeks. A definite rise in cholesterol is often found long before characteristic clinical signs are observed.

Response to Thyrotropic Hormone.—We have found the assay of thyrotropic hormone in the urine unreliable and of little diagnostic value. On the other hand, by observing the effect of the injection of thyrotropic hormone, one might presumably determine whether a patient has a thyroid gland capable of functioning effectively. The author and Fleischmann found that in children the measurement of the urinary excretion of creatine was the most sensitive method of determining thyroid effect. In making the test, it was important to measure the creatinuria not only after the injection of thyrotropic hormone but also after the administration of desiccated thyroid or of thyroxin. Three types of response were found. A positive response, indicating that the thyroid gland is responsive to stimulation, consists of an increased creatinuria with thyrotropic hormone and also with thyroid medication. A negative response, indicating that the gland is absent or incapable of being stimulated, con-

sists of no increase in creatinuria with thyrotropic hormone, but a marked increase in the excretion with desiccated thyroid or thyroxin. In the third type of response, termed "false negative," there is no effect upon the creatinuria of either thyrotropic hormone or thyroid medication. In patients showing the false negative response, the failure to react to thyrotropic hormone cannot be interpreted as indicating that the thyroid gland is absent or unresponsive, because even the administration of thyroid has no effect upon the creatinuria.

Nine hypothyroid children that we studied showed negative responses. Normal children and dwarfs presenting no evidences of thyroid deficiency usually gave positive responses, but a few showed the "false negative" response.

Summary of Special Diagnostic Studies

In Table II are summarized the results of the special laboratory studies discussed. These studies are only a beginning in the search for more specific and objective methods of measuring thyroid function, and exact criteria for the diagnosis of thyroid deficiency cannot yet be stated. Most hypothyroid children present characteristic clinical pictures, and elaborate biochemical studies serve only to confirm diagnoses already fairly obvious. In a few atypical cases, or in patients previously treated with thyroid, the studies have proved of considerable value in demonstrating clearly the presence or absence of thyroid deficiency.

ROUND-TABLE CONFERENCE ON OFFICE SURGERY

THE Round-Table Conference on Office Surgery was held Oct. 2, 1940, during the Ninetieth Annual Session of The Medical Society of the State of Pennsylvania at Philadelphia. Dr. L. Kraeer Ferguson, Philadelphia, chairman, presided. He was assisted by Drs. Leonard F. Bush, Danville, and Harold G. Kuehner, Pittsburgh.

CHAIRMAN FERGUSON: The discussion this morning on office surgery is intended to be very informal. We hope to talk over together the treatment of various types of surgical lesions that can be treated in an office. Our plan is to present a discussion of several of the lesions that might be met in an office practice and to discuss their treatment, and then, after these discussions, the meeting will be thrown open and we will try to have a general discussion in which you can all engage. There are slips of paper on the chairs on which you may write your questions if you prefer to do that. We are here to learn, just as I think you are, so that any questions you have to ask we will try to answer.

Dr. Bush will discuss lesions of the hands, especially infections. Dr. Kuehner will discuss the treatment of superficial cysts and ganglia. Dr. W. Blair Mosser, of Kane, was to have been here to discuss the treatment of superficial infections, boils, cellulitis, etc. Unfortunately, he will not be here, but we shall have some discussion on this subject before we throw the meeting open. I plan to discuss the treatment of wounds as met in an office practice. These are only a few of the lesions that are seen in the surgical treatment of patients in an office. Other conditions, such as minor fractures, varicose veins, ulcers, anal fissures, foreign bodies, and so forth, are commonly seen.

Any questions on any other type of surgical lesion met in an office practice will be welcome, and we want you to feel free to make any suggestions you may have from the floor. The round table is to be as informal as you make it, and I hope you will join in that spirit.

Dr. Bush, who will open the discussion, has a prepared paper to present.

Office Treatment of Hand Infections

Leonard F. Bush, M.D., Danville, Pa.

The title of this discussion would lead one to believe that the various hand infections are of a trivial nature, being classified under minor surgery. Those who see a large number of hand injuries and infections fully realize that it is these so-called minor problems, poorly handled, that give us disastrous results with loss of function and a permanently crippled member. Little attention is given these seemingly unimportant problems by most of the medical profession. Hand infections are more frequently seen by the

average physician than are appendicitis, pneumonia, and many other diseases, but are casually considered by comparison, even in the classroom.

Certain prophylactic measures might be stressed as a means of preventing a puncture wound, scratch, or minor laceration from becoming infected and involving the adjacent spaces of the hand. First of all, cleanliness is carried out by washing the hands in warm water, using a bar of Ivory soap. A thorough washing will prevent more infections and cause less chemical injury than any of the available antiseptics. We give our patients a bar of soap and turn on the warm water faucet, having them wash their hands 10 minutes by the clock before any surgery is done. Proper débridement of the wound and careful approximation of the skin edges is followed by a compression bandage and splinting. All hand injuries and infections are splinted in a position of rest, affording more rapid healing and comfort to the patient.

Types of Infections

The felon is an infection in the closed space in the soft tissue surrounding the distal phalanx, characterized by swelling, throbbing pain, heat, and extreme tenderness. The treatment is early drainage by means of a lateral incision carried to, but not through, the opposite side of the finger. This cuts all of the connective tissue strands which pass from the skin to the periosteum of the distal phalanx. The wound is packed open with vaseline gauze for 48 hours. A light dressing and finger splints are then applied. After the packing has been removed, bi-daily hand soaks may be instituted. If the wound continues to drain and the member remains painful for many days, osteomyelitis should be suspected and a roentgen-ray examination made. If this complication occurs, continuous dressing will be necessary; in due time the sequestered bone will become detached and is easily removed.

A localized felon may occur at the tip of the finger following a puncture wound. In such an infection an incision is made over the site and packed open with vaseline gauze.

Infections commonly seen around the nail are the paronychia, eponychia, and subungual abscess. These infections are frequent, are usually

caused by hangnails or trauma, and are secondarily infected. (The present-day fingernail fads increase the number of these infections.)

The paronychia is characterized by a swollen, red, tender area on either side of the nail. Hot wet dressings or hot soaks will often abort these lesions or in a few hours will localize them so that a small incision may be made at the side of the nail. A wick of vaseline gauze is inserted for drainage. If, after proper drainage has been instituted, the discharge and pain continue, and the redness extends around the base of the nail, a subungual abscess is undoubtedly present. The treatment becomes more radical necessitating resection of the base of the nail. Usually the whole base is undermined with pus and can be resected with a pair of sharp scissors. Vaseline gauze is inserted between the overlying skin and the nail bed for 24 to 48 hours.

Eponychia occurs beneath the skin overlying the base of the nail. This is treated by incising the abscess and applying hot wet dressings or frequent hot soaks. This lesion may be confused with or complicated by the more serious subungual abscess, and if acute symptoms persist, the base of the nail should be resected. This is often necessary when pus beneath the nail cannot be visualized.

A word may be said concerning subungual hematomas which are extremely painful and often become secondarily infected. Pressure beneath the nail is released by drilling a small opening over the hematoma.

Subungual foreign bodies are often difficult to remove without removing a portion of the nail. Secondary infections, occurring under the distal portion of the nail, are usually cared for by removing the overlying nail.

Infections of the dorsum of the fingers, such as furuncles, boils, and carbuncles, are particularly dangerous because of the ease with which they spread to the web space. In repeated infections, especially carbuncles, one should rule out diabetes mellitus. These infections should be treated early by continuous hot wet dressings or arm baths, and later, when localized, by crucial incisions extending beyond the zone of redness. The wound is then packed open with vaseline gauze and the member splinted. Continuous hot wet dressings or bi-daily arm baths should be instituted postoperatively. The hand should be examined daily so that early diagnosis of extending infections may be made.

Web-space infections occur from 2 sources—either from a dorsal infection or an infected palmar blister or fissure. These occur most commonly over the metacarpal-phalangeal joint and

infection of the web space takes place by direct extension. The treatment consists of localization followed by incision. The incision is made transversely over the involved space. The wound is packed open with vaseline gauze for 48 hours, and the hand is splinted. After removal of the packing, bi-daily hand soaks and dry dressings should be carried out. Because of the location and the potential severity of this type of infection, we often hospitalize the patient for a day or two.

Infected blisters of the hand should be treated by aseptically unroofing the blister area. This can be done by means of a sharp knife or scissors and the finger forceps. After this is carefully done, sterile vaseline or ammoniated mercury dressings are applied.

There are many other infections of the hand which cannot be discussed at this time. It is a well-known fact that human bites are usually infected, and a high percentage lead to disabled members. The first physician to see such a wound should, under aseptic conditions, excise the wound edges and all macerated tissue, and thoroughly cleanse the wound. The wounds are left open and are packed with zinc peroxide, or continuous hot wet dressings are applied.

The anesthetics used depend entirely upon the extent of the infection and the individual who is to be treated. Of the general anesthetics, we prefer pentothal sodium for adults and vinethene for children. Local anesthesia is often used for the lesser infections which require only a small area of infiltration.

Principles of Treatment

In general, the principles of treatment of hand infections in the office should consist of (1) adequate knowledge of the subject, including the anatomy of the hand, and the potentialities of the infection encountered; (2) proper cleansing of the part by warm water and soap; (3) localization of the infection by hot wet dressings (saline or magnesium sulfate) or hot arm baths, followed by proper incision and drainage; (4) the wound should be packed open (never through and through), preferably with vaseline gauze for approximately 48 hours; (5) bi-daily arm soaks and dry dressings as long as necessary, and the part splinted in a position of rest until healed. A solution of equal parts of alcohol and glycerin may replace other types of wet dressings to keep the wound soft, maintain drainage, and prevent maceration.

"Don't overtrear or just do something" is Sumner Koch's advice.

Sound judgment on the part of the attending

physician, although mentioned last, is perhaps the most important factor in the treatment of these conditions. The lack of this factor brings to the hospital late complications and infections such as necrotic tendons, palmar abscesses, osteomyelitis, etc., all of which result in prolonged disability and perhaps total loss of the finger or hand.

CHAIRMAN FERGUSON: We will now hear a discussion of **superficial cysts and tumors**, especially ganglia and sebaceous cysts, by Dr. Kuehner.

DR. KUEHNER: It is not necessary to consider the pathogenesis and general symptomatology of these conditions. In the instance of ganglia, a cystic degenerative change occurs in and about the fibrous connective tissues of joint structures and tendon sheaths. This cystic development does occasionally occur away from these structures, as in the distal phalanges of the fingers and toes. The main complaint as a rule is the disfigurement, with occasionally a slight limitation of function, but rarely is pain a prominent factor. In certain instances, trauma must play a definite rôle as a contributing factor. There are 2 theories as to pathogenesis: (1) that it is due to faulty development or arrest of the growth of connective tissues of synovial membranes; (2) that it is due to a degenerative change in the connective tissues. The latter theory is reinforced by the finding of ganglia away from tendons and joints. Ganglia do not have a true endothelial lining but are of mesothelial character. The contents are insoluble in water and are of the nature of colloid or pseudomucin. They may have a simple attachment or may be complex.

(Dr. Kuehner then showed slides of the commoner types of cysts and ganglia): (1) This is a lateral type of wrist ganglion. (2) This is a usual type of dorsal ganglion, probably more common than any other types of wrist ganglia. It is apt to have a dual attachment, and its removal is sometimes made difficult by this factor. (3) This is a ganglion on the lateral aspect of the foot. (4) This is a dorsal ganglion of the foot. (5) This is the so-called complicated or compound ganglion of the dorsum of the hand. It affords the greatest difficulty from the standpoint of surgical approach and removal, not being favorable to certain types of treatment.

In general, the treatment of these ganglia has resolved into a consideration of the old-fashioned methods, which included (1) rupture by blow, where recurrence is likely; (2) aspiration, where again recurrence is likely; (3) more recently, aspiration combined with injection of some sclerosing solution, such as quinine, urethane, synlasol, and so forth; this method should never be used in compound ganglia or multilocular ganglia, and should not be used in either the very superficial or the very deep ones; (4) the best treatment and probably the only safe one from the standpoint of avoiding recurrence in a high percentage of cases—they do sometimes recur regardless of treatment—is the total excision. This should be done completely with the removal of the base attachment. In the total excision of these cysts it is necessary to employ either a local or a general anesthetic. It is my opinion, and Christopher so advises in his text, that this should not be attempted in the office. However, in practically all instances of uncomplicated cysts, the use of novocain anesthesia is of definite value. The removal as a rule is not difficult if one takes his time. The tendency is to

become excited by the fact that these are deep and one is apt to plunge into the cystic mass and rupture it. The base should be carefully removed in order to guard against recurrence.

(Additional slides were shown): (1) This represents a rather uncommon although not exactly rare type of cyst seen in the flexures of the hands, and found in the fourth and fifth fingers rather than the inner fingers. (2) This is a type seen away from the usual location—the attachment of this was away from the joint. (3) This is a true ganglion well away from the joint surface. (4) This is a diagrammatic sketch of the aspiration method advised in the ordinary textbook. This method is brought out here, not so much to give an idea of what to do but to afford an opportunity to see the great pitfalls that are attendant upon the aspiration and injection method. In the case of a compound cyst, it is probably unwise to attempt this method of treatment under any circumstances. In the case of an unusually deep ganglion, this method is not the one of choice. (5) This is an interesting case of Dr. Ferguson's with a true ganglion of the peroneal nerve. The removal of this ganglion was effected, with complete relief, without recurrence and without interference with the function of the peroneal nerve.

There are definite limitations in the aspiration and injection treatment. The possibility of relief without recurrence is afforded in a limited number of cases. If the cases are carefully selected, and if there are no actual complications present in the cyst, then the procedure of injection and aspiration is not difficult. If the cyst is multilocular, this method should not be employed. If the ganglion is a multilocular one, the procedure is best done under general anesthesia under more opportune circumstances than in an office. After the removal of the ganglion it is advisable, unless it is a very simple one, to splint the part for a week or 10 days, removing the splint for passive exercises. These patients should not be allowed to go out and use the hand immediately.

Ganglia must be differentiated from superficial cysts and neoplasms.

In the instance of sebaceous cysts, we are dealing with a very common type of cystic development seen practically over the entire area of the body. The commoner areas are in or about the head, neck, face, frequently on the dorsum, abdomen, and extremities. Sebaceous cysts are due to blockage of the ducts of sebaceous glands. They usually occur about a hair follicle, but may open directly on the skin, as seen on the lips, breasts, and genitalia, or they may open about the lanugo, the forehead, ears, or torso. They should be differentiated from keratomas, steatomas, and dermoids.

The sebaceous cyst is fixed to the skin and moves freely over the underlying structures. The skin is freely movable over the dermoid, but the dermoid is firmly attached to the deep tissues.

Dermoids appear at the ocular canthi, in front of or behind the ears, at the fontanelles, and at the caudal growing point.

Malignancy may develop in sebaceous cysts and these may frequently ulcerate. There usually are no symptoms unless the cysts are of large size, interfering with ordinary hygienic care or the wearing of clothing, or if they ulcerate.

(Further slides were shown): (1) This shows some of the commoner types of cysts which do at times attain a tremendous size. (2) This is on the vertex of the scalp. (3) This shows the widely scattered appearance

of these cysts over the lateral aspects of the torso. (4) This shows the cyst seen in or about the ear. It must be differentiated from the dermoid, since this is one of the commoner locations for dermoids. (5) This shows a multiplicity of sebaceous cysts about the eyelids and on the cheek. These about the eyelids must also be differentiated from the dermoids. (6) These show rather unusual types of sebaceous cysts in the lower extremities. (7) These are unusual sebaceous cysts on the upper extremities. They are sometimes confused with the neurofibromatous developments seen. They have much the same character in the forearm from the standpoint of physical examination.

Surgical removal as a rule is very simple and consists of enucleation under local anesthesia. Avoid rupturing the cyst if at all possible. A diamond-shaped infiltration of the skin about the cyst and the injection of novocain under the cyst to elevate it is of value. If in doubt, remove a small segment of the skin with the sebaceous cyst to avoid rupture. This relieves one of the embarrassment of coming directly into the cyst at the center. Also, the infiltration beneath it affords a certain amount of opportunity to outline or define the cyst more definitely than otherwise. The cyst can be peeled out usually without rupture of the membrane and can be best treated by a gentle twist procedure. This avoids some of the oozing which interferes with free healing. After removal of the cyst, the cavity should be closed tightly without drainage.

In the incidence of infection, if there is not actual suppuration, wet dressings and delay are advisable. If there is suppuration, then immediate drainage of the contents with very careful curettage of the cell lining is indicated.

It has been my experience that these wounds heal better and there is less continuous drainage if the tissues are not mistreated by the application of any of the stronger chemical substances.

CHAIRMAN FERGUSON: I had planned to speak about the **treatment of wounds** in office practice. I will do that first and then I will say a few words about the treatment of infections.

We, as physicians, should recognize that our only purpose is to help nature. In the case of fresh wounds, nature can take care of them very well with a relatively slight amount of help from us. With that idea in mind it is worth while to consider how we can help nature. We can do this in 2 ways—by trying to prevent factors that prevent healing and by carrying out procedures that will favor healing. The things that will prevent healing in a wound are the presence of bacteria and foreign bodies. These are potentially present in every accidental wound, more so in some types than others.

Every accidental wound must be considered as potentially infected, especially during the first 6 or 8 hours after it occurs. At that time the wound is not infected but contaminated. If proper treatment is given, such wounds can be converted in a large majority of cases from contaminated wounds to wounds that will heal. The procedure is one of simple mechanical cleansing: First, clean the tissues surrounding the wound with the wound protected as well as possible by holding in it a sterile gauze. Treating the gauze with 5 per cent novocain solution will frequently give an almost painless wound. Before anything is done, however, the physician should wash his hands and, if possible, put on sterile gloves, although this is not always imperative. Then with soap and water the area around the wound should be cleansed, hair and grease removed, and the

wound itself should be cleansed, irrigating it with simple saline or simple sterile water. With this type of cleansing one may feel certain, if the procedure is carried out in the first 6 or 8 hours, that the wound will heal without complications.

When the importance of mechanical cleansing is recognized, it will be found that there is no necessity for the application of antiseptics. In wounds in which there is a detachment of tissue, removal of this area must be accomplished. So the second procedure is the removal of such tissue, which would tend to prevent healing. The third thing which prevents healing is movement and this can be avoided by the use of splints.

What factors favor healing? First, the promotion of hemostasis, which will permit relatively rapid and complete healing to take place. Hemostasis is not necessarily brought about by ligation. In most wounds that can be treated in an office practice, ligatures are unnecessary. Hemostasis can be accomplished by the introduction of sutures into the wound edges and by the application of pressure. In almost all wounds of minor nature these 2 methods give satisfactory results.

A second factor that favors healing is repair of the tissues. The question will not be raised here as to whether or not one should attempt the primary suture of tendons, but as soon as possible after the wound has been mechanically cleansed an attempt should be made to replace the tissues in their anatomic position and to close the wound by approximating the skin over its surface. One of the most important factors in the prevention of disability and delay in healing is approximation of the skin. It is often worth while to carry out a flat type of incision and even do a skin graft. This is especially true in cases of wounds of the finger, where a small graft removed by local anesthesia and placed over the wound will permit healing in a much shorter time than otherwise obtainable. In connection with closure of the wound, suture of the skin is not always necessary. Frequently in small wounds, especially in wounds that are not conspicuous—those on the arms, back, and so forth—approximation of the skin edges can be brought about easily and well by simply pulling together the skin edges with adhesive.

Another method which favors healing is the application of splints. Practically all traumatic wounds will heal rapidly and well if the part is put at rest, whereas if the part is being used and moved, the rapidity of healing is much delayed and often complicated. The use of splints and even of plaster casts in the treatment of wounds is recommended. This treatment is being stressed more and more for war wounds. It is just as important in wounds we treat in the office as in any other wounds.

Finally, infrequent dressings are recommended. The tendency to tear off the dressing and put on a new one every other day is to be condemned. The primary dressing, which may have a little dry blood on it, acts as a perfect splint for the wound. Removal means oozing of blood and the permission for the introduction of bacteria into the wound. The longer wounds are left alone the better they will heal. They should not be touched, except to change the outside dressing, until the sutures are removed, and these can be left in 7 to 10 days if necessary.

A word about **chemotherapy in the treatment of wounds**. This subject is not by any means settled as far as we are concerned. Do we know whether or not we can prevent infection by giving sulfanilamide to patients who have surface wounds? The literature from abroad is still not convincing as to the value of chemo-

therapy. Nevertheless, in wounds in which there is considerable contamination little harm can be done and perhaps a great deal of good can be accomplished by the use of sulfanilamide as a prophylactic measure in the prevention of infection. The value of these chemotherapeutic agents is greater during the invasive stage of the infection, hence the reason for the prophylactic use of these substances during the early stages of treatment. Mention should also be made of the fact that in all wounds in which there is contamination from the street, or in puncture wounds or the like, tetanus antitoxin should be given.

There are certain types of wounds that bear observation. Puncture wounds are found especially in the hands or feet and there is always the problem of whether these wounds should be excised or be left alone. An adequate and careful history is important in deciding. Our treatment depends on the type of instrument that caused the wound. If an ice pick has been driven into a patient's hand, and the ice pick has been in a relatively clean area, not necessarily a sterile one, conservative therapy is recommended. Conservative therapy means splinting, hot wet dressings, no probing of the wound, no introduction of antiseptics. Otherwise, incision and drainage have to be carried out. If a puncture wound has resulted from a stick from the floor running into the patient's foot or leg, the possibility of contamination and infection is too great for the wound to be treated conservatively. In such a case a wide open incision or excision and removal of the foreign body is recommended.

One other type of wound is the abrasion. It is commonly seen over the knees, elbows, and hands, especially in children. Unfortunately, we do not see it often until infection has occurred. Occasionally, mothers will bring children to us with a recent abrasion—a black, dirty area. What shall we do with that type of wound? It has to be treated as any other wound; the important thing is the cleansing. Here is certainly a time when adequate use of soap and water is important. By gentle scrubbing of the area with cotton or gauze and a sufficient amount of soap and water, foreign bodies can be removed and the area converted into one of simple damaged superficial skin. The subsequent treatment depends a little on one's choice. If cleansing can be accomplished well, we often try to produce a superficial eschar by the application of gentian violet, or the part may be treated by hot water until we are sure that infection will not occur.

As to treatment of infections in office practice, 2 types of infection are commonly seen: (1) the boil, carbuncle, or pimple type; (2) the cellulitis type. These are produced by 2 different types of organisms. The variation of the organisms accounts for the difference in the process. The boil is almost invariably produced by the *Staphylococcus aureus*, which tends to invade through superficial abrasions. The whole tendency of a staphylococcal infection is to remain localized, to form a protective wall of induration, to discharge the necrotic center, and to heal. The best we can do is to help nature get rid of this infection, and since we know that if given a chance the staphylococcal infection will probably localize and drain, our tendency is to treat it conservatively. This does not mean early incision; neither does it mean that we do nothing. We put the part absolutely at rest. By immobilization with a splint, rapid localization of the infection can be expected. If anything else is done, there is a tendency for it to spread.

Local moist heat is important. In dressings for ambulatory patients, the use of some method of preventing evaporation and keeping the heat in is of great value. We use simple wax paper. We put on the dressing, moisten it, cover it with wax paper, and use the splint. The wax paper keeps the body temperature from radiating and keeps the dressing warm and moist much longer than otherwise. With this method of treatment, immobilization and hot wet dressings, most infections of this type will subside and either drain spontaneously or drainage can be induced by judicious incision. The only reason for incision is to obtain relief of tension; often the patient will urge incision whereas our tendency is to withhold it. Healing takes place with less scarring if spontaneous evacuation of the localized area of staphylococcal infection can be permitted.

In cases of staphylococcal infection, how can we immobilize areas where splints cannot be applied, as on the neck and back?

We cannot, but we can help a great deal. The method is the use of adhesive strappings. In the case of a carbuncle, we apply a circle of adhesive, which we cut down one radius and apply as a cone over the carbuncle. This gives a pretty good splint to the area and will relieve a great deal of the patient's discomfort.

The cellulitis type of infection is seen on the dorsum of the hand and foot. It tends not to localize, but to spread and invade. It rarely causes a local area of suppuration except in late stages when there is a local area of necrosis and subcutaneous abscess. This can be treated in office patients only in the early stages. One should not expect to treat the more advanced cases of cellulitis as ambulatory patients.

We often see patients with a cellulitis or lymphangitis; these can be taken care of safely for at least one or two days if constantly under the eye of the physician and if appropriate treatment is given. Long before we had chemotherapy we treated these patients with a fairly good measure of success. The method most effective is the use of immobilization dressings. The parts must be put at rest. If the foot is the part involved, the patient must be put in bed and the foot elevated. If an arm or hand is involved, an internal right-angle splint must be applied. Hot wet dressings here again are effective in helping the cellulitis to disappear. In the early stages this will often occur over night. There is no use overlooking the fact that we have a very effective aid in treating this type of infection in various drugs. We give sulfanilamide to these patients in doses of 90 to 120 grains the first 24 hours. This may be dropped to 80 grains the second day and to 60 on the third if the infection subsides.

We will now open the meeting to discussion.

DR. BUSH: I am asked a question concerning fractures. The correct position for a fracture is that which will hold the fractured area in its proper anatomic position. In the case of a fractured wrist, the wrist must be put in the position in which the fracture occurred. When this is displaced dorsally, the only way that fragment can be placed properly is to put it in acute or semi-acute flexion; otherwise the danger of the fragment slipping will exist. Every now and then we see an anterior fracture. We must reduce the fracture and put the wrist up in a slight cockup.

I'd like to say a word about sutures. There is a cotton suture which can be obtained in any store. We have been using it in the closing of all our wounds. It

is superior to any other type of suture that we have used. There is absolutely no reaction if there is not too much tension on it. We get excellent results from these cotton sutures and they are much cheaper.

Dr. Ferguson spoke about adhesive. There is a recent article mentioning the use of elastoplast, which is on the same principle.

Here is a note concerning a physician who had 2 cases of human bite that healed. We know that human bite infections are usually a symbiotic type. If we can use sulfanilamide, it is fine. We have not had much experience with these cases.

DR. KUEHNER: I am asked how to treat an **ingrown toenail**? This depends on the type and whether it is infected. If infected, the ideal procedure would be to bring about a quiescence of the infection by local applications of wet dressings, etc. After the infective state is reduced to reasonable safety, proceed with the removal of the lateral margin of the nail under local anesthesia. It is imperative that one remove the matrix of the removed portion of the nail, not only on the phalangeal surface but also the soft tissue in order to avoid a recurrence of the outgrowing nail. This can be done after the local injection of novocain by simply removing the keratinized portion of the nail and then, with a small curette, curetting away the nail as well as the soft tissues on it.

CHAIRMAN FERGUSON: Some one has asked about the **treatment of warts**. The warts that are seen in office practice may be divided into 3 chief types—those numerous warts that grow over the back of the hands and the fingers, those over the knuckles, and plantar warts. The easiest treatment and the one that gives best results immediately is excision, but it is difficult to excise warts over the fingers and on the plantar surface of the foot, so that excision in those areas is not easily practiced. What else is there available? First, electrodesiccation is possible as an office procedure, using novocain anesthesia. In a large percentage of cases, if the base of the wart is carefully destroyed, the wart will heal. Second, the application of local cauterizing agents may be successful in a large series of cases, protecting the area around the wart with vaseline. Nitric acid may be applied. By destroying the wart in this manner, almost the same thing is done as when the electrocoagulation needle is applied. Third is the use of the roentgen ray, to be done by a dermatologist or radiologist. Fourth and last is the injection into the base of the wart of some sclerosive solution. The idea is that by injecting this solution one produces a thrombosis of the vessel which forms the main stock of the outgrowth of epidermal tissue. This is not painless, but is very effective. Simply inject into the center of the wart a drop of quinine urethane, sodium morrhuate, or something similar.

Another question concerns the treatment of infectious granulomas that often develop in infections. They are the little, easily bleeding affairs that occur in infected wounds, and are seen most commonly on the hands, the lips, and so forth. They look like little tumors and they bleed so readily that one often suspects they are tumors. They are simply an outgrowth of hypertrophic granulation tissue tending to recur unless removed. They should be removed simply by cutting off with the scissors, without much pain, and the base cauterized with silver nitrate. This is effective in a large percentage of cases. The difficulty is that oftentimes there is considerable bleeding after removal. Pressure is all that is necessary to control the bleeding. The other

method of treatment is by roentgen ray. This is more prolonged and no more effective than simple excision and cauterization of the wound.

This question is asked: In infected wounds due to the staphylococcus or streptococcus, do you favor local application of chemicals such as sulfathiazole and sulfanilamide? Another question along the same line is: What about the use of sulfanilamide powder in infected and necrotic wounds? I do not believe there is any evidence available that the local use of sulfanilamide is of more value than the systemic use of these chemotherapeutic agents. The primary use of these drugs as local applications has been in the treatment of compound fractures, and equally good results can be obtained with their use by mouth. In the treatment of infected wounds it is problematic whether local use of these drugs is of any particular value, because I do not believe the drugs can enter the tissues in any effective concentration. However, the use of an adequate amount of the drugs to raise the concentration of the blood up to an effective dose is really of value.

Some one asks: What is the **present status of tetanus toxoid**? Toxoid, as you know, is a treated tetanus toxin which, when injected, produces a gradually increasing antitoxin in the patient's body, and it has been shown in a fairly large series of cases that they develop sufficient immunity to prevent them from getting tetanus, at least as far as it can be prevented by such immunity. It is problematic when we should use this drug. Certainly it would seem wise to give tetanus antitoxin to individuals in an industrial plant or to those engaged in building bridges, etc., in order to immunize them. I imagine we will all be given tetanus antitoxin along with typhoid injections in the Army. I have not had occasion to use tetanus toxoid in any large series of cases. No doubt industrial physicians are more interested in it.

This question is asked: Will you give us a simple **technic of skin graft** for an open wound, for instance a finger amputated in an injury? I had a patient who was a conductor or bus driver on one of the PTC buses. In trying to put a window down the window broke and the tip of the phalanx was cut off. It is perfectly possible, when the skin is there, to clean it up and put it back and use the part that has been amputated as a graft. In a fair percentage of cases it will work. In this case, where the skin was gone, after cleansing the wound, I excised the tissue down to the finger tip and put 3 sutures in. The wound was dressed and splinted, and I looked at it after 7 days. The wound healed well. I do not say that all wounds can be treated that way, but if the wound can be closed by covering with skin, healing will be much further along and the disability will be less.

A question has been asked about the **treatment of hemorrhoids in the office**. I will go into this a little in detail. We divide our cases of hemorrhoids into 2 groups depending on the position in the mucoid lining—those that are external and those that are internal. External hemorrhoids give no symptoms except that occasionally they are stretched at the time of bowel movement. There is hypertrophy of the skin, which causes itching. They may be complicated by trauma or infection and a thrombosis is formed with clotting of the blood. In that case a new symptom is added, namely, pain. When pain is a factor, the patient comes in with a little mass at the orifice. On examination we can usually see this hard mass; if not, we can see the purplish clot. In small localized areas of external thrombosis, the simplest treatment is excision of the

thrombosed mass. This can be done in the office. The patient is placed on the side where the hemorrhoid is, with the underneath leg straight and the upper leg bent. If there is a nurse present, she holds the buttock up, but the patient can do it himself; then we infiltrate into the skin at the base of the hemorrhoid and, when we see the hemorrhoidal mass, we infiltrate around on each side and underneath and make an elliptical incision. We lift up both skin and hemorrhoid and cut it off and that is all there is to it. We usually prescribe a sedative such as aspirin. A little piece of packing in the anal canal is all that is necessary and the patient is cured in 24 hours.

Internal hemorrhoids are an entirely different proposition. These are projections of mucous membranes into the anal canal. They become traumatized by the passage of stools. One symptom is bleeding. Also, prolapse may occur. The treatment of internal hemorrhoids must be differentiated in these 2 types. In those

cases in which bleeding is the only symptom, conservative therapy is of value. By that I mean injection. We visualize the hemorrhoid by the use of the anoscope and inject one of several types of solution, such as sodium morrhuate. We do not inject into the vein but into the perivenous tissue, which produces a fibrosis and glues this part down to the anal wall. This can be done painlessly without any anesthesia. The patient is not taken off his feet and there are no after-effects. Prolapsing hemorrhoids are not well treated by injection. There is subsequent increase of inflammation and more trouble is caused than was present in the beginning. Where there is a prolapse of internal hemorrhoids, operation is the accepted method of treatment.

Another question is asked about clamps. They are fine. They are an easily available method of closing an incision, can be applied without difficulty, and give just as good results as sutures. Their chief value is that they usually turn the edges out.

ORGANIZATION OF MEDICINE AND MILITARY SERVICES

"As our nation begins to mobilize for efficient defense against any type of aggression, the medical profession is called on increasingly for the specialized service which only medicine can render," *The Journal of the American Medical Association* for Nov. 16 declares. "The pages of *The Journal* have been reflecting these activities increasingly in recent weeks. It is trite to say that medicine has advanced more greatly in the past 50 years than in all the previous centuries of the life of man. It has, moreover, become even more specialized in the 20 years that have passed since the last war than in the 20 years previously.

"The increasing specialization in medical service has introduced into medical practice innumerable technicians of considerable variety. The technical branches associated with medical care include physical therapists, roentgenologists, clinical pathology technicians, lay anesthetists, and dental hygienists, as well as the vast personnel of the hospital, including the record librarians, the dietitians, the hospital librarians, makers of splints and braces, and other similar workers.

"Moreover, there are vocations associated with medicine which do not involve complete medical training but which have in many places legal recognition. Thus there are masseurs who are essentially physical trainers or rubbers rather than physical therapists. There are podiatrists who in some instances, under medical supervision, are helpful in the treatment of lesions of the soft tissues of the feet. In addition, there are osteopaths, chiropractors, naturopaths, and others who claim to have training and ability to treat human diseases and abnormalities. In the evolution of the medical services associated with military establishments, recognition has been sought by many of these agencies, and attempts have been made to develop suitable rank and advancement for workers in every one of these fields. Some of these movements have gone to the point of proposed legislation, and attempts have been made to secure official status for workers in some of these fields which would carry them not only to the ranks available in the lower grades of the medical

corps but even to lieutenant, captaincy, and colonelcy.

"In military organization each rank provides a certain income with certain command or professional responsibilities. Physicians, dentists, and veterinarians have rank commensurate with their responsibilities. It would be most unfortunate if members of a technical group that may be of assistance to the medical profession in a subordinate capacity should be advanced by law in military service to rank granting them not only equality but actual supervision over highly trained physicians and surgeons.

"Unfortunately, in their desire for advancement, several of those engaged in the technical branches that have been mentioned have urged the aid of physicians in their campaign for legislation. The physicians will do well to avoid such entangling alliances and avoid participation in such movements unless they are completely aware of what the ultimate effect might be on military organization, and particularly on that part of it in the military service."

TRANSPARENT WOMAN NOW A PERMANENT EXHIBIT

After visiting cities from coast to coast on its public health-educational tour during the past 4 years, the Transparent Woman exhibit, sponsored by S. H. Camp & Company, was donated to the medical section of the Museum of Science and Industry, Chicago.

It is estimated that approximately 8,000,000 persons, including many thousands of physicians, viewed the exhibit on its tour of the nation.

Dedication ceremonies, which took place recently, were broadcast over NBC's national Blue network, and participating in the program were Morris Fishbein, M.D., editor of the *Journal of the American Medical Association*, Eben J. Carey, M.D., curator of the medical section of the museum and dean of the School of Medicine, Marquette University, Major Lenox R. Lohr, president of the Chicago Museum of Science and Industry, and Mr. S. H. Camp. Several hundred notables and distinguished physicians were present.

Pennsylvania's Activities in Pneumonia Control

DALE C. STAHLE, M.D.

Harrisburg, Pa.

TEN years ago Pennsylvania was the unhappy possessor of the eighth highest death rate from pneumonia of any state in the United States. Today she can boast of having the lowest death rate in her history and of having gone from eighth place to forty-third place among the states. Ten years ago Pennsylvania had 9426 deaths attributable to this disease. This year there were only 4680* deaths. No state having a lower death rate than Pennsylvania at present has even been listed as one where pneumonia was a particularly acute problem. This evidence suggests that our state has made rapid progress in controlling the disease and that relative advancement in this field has been more rapid than in most other states. These startling improvements have not been spontaneously achieved, but represent the results of much effort on the part of many groups interested in the problem.

Pneumonia control activities in Pennsylvania began with the State Medical Society 4 years ago, with the appointment of the Commission for the Study of Pneumonia Control. One year later the State Department of Health became interested and proffered its services by making available certain types of specific serum to be used in treating deserving pneumonia patients. By collaborating, these 2 agencies treated about 1200 cases the first year and this figure was increased to 1600 the following year.

The beginning of the last pneumonia season found the State of Pennsylvania in a receptive mood for a big campaign against this disease. First, the medical profession through its pneumonia control commission had already been made pneumonia-conscious, was interested in the problem, and was eager to co-operate in any way possible. Second, the Department of Health had come under the leadership of a man who likewise was all for doing something actively to control this disease. Third, new and improved therapeutic agents had come into being which,

thanks to physicians in our own state, had been clinically proven to be efficacious in reducing pneumonia deaths. Accordingly, with the co-operation of all interested parties, an extensive pneumonia control program was put into effect at the beginning of the last pneumonia season.

Pneumonia today is the third most frequent cause of death in Pennsylvania. It is outranked only by cardiovascular disease and cancer—2 degenerative conditions which at present we are only beginning to find ways and means of combating. Pneumonia, for the past 10 years, has been responsible for an average of 8696 annual fatalities and an estimated annual morbidity of some 35,000. Ninety per cent, or 31,500, of these cases should be susceptible to specific therapy, for the pneumococcus or the streptococcus is the responsible organism in more than 90 per cent of all pneumonias. Mortality rates in untreated pneumonia are 25 to 30 per cent. In properly treated cases they should not be more than one-third of this figure. If, then, these 31,500 cases are adequately treated, our total annual deaths should be not 8600 but in the neighborhood of 3000, or a reduction in pneumonia deaths of 5000 annually. Local groups working in hospitals have demonstrated beyond a shadow of a doubt the feasibility of such an approach to the problem and have been rewarded by results indicated possible by our theoretic calculations. The problem resolves itself, therefore, into one of getting every pneumonia patient under the supervision of a competent physician and giving adequate medical care as early as possible. Since little can be done at this time in preventing the disease, we will have to content ourselves with doing what we can—which is considerable—after the condition develops.

Justification for the State Health Department's participation in a pneumonia program is found in the fact that the cost of treating pneumonia is high, having been estimated at \$167.50 per case. Statistics also show that 49 per cent of all pneumonia occurs in families whose annual income is \$1000 or less and that 26 per cent of these cases are on relief. It is not to be

Read before a General Meeting of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 3, 1940. From the Division of Pneumonia Control, Pennsylvania Department of Health.

* Tentative figure. Results for June, 1940, not yet in. Estimated value for this month has been included.

TABLE I

THE COURSE OF PNEUMOCOCCIC PNEUMONIA IN ADULT PATIENTS IN THE JOHNS HOPKINS HOSPITAL FROM JULY 1, 1935, TO JUNE 20, 1939

Year	No. Cases	Bacteremic Incidence		No. Cases Treated			Incidence of Complications	Incidence of Concurrent Disease	Case Fatality Rate
		Admission	Late	Specific Serum	Sulfapyridine	Serum and Sulfapyridine			
1935-1936	157	21 or 13.3% 23 or 14.5%	2 or 1.2% 1.2%	31 or 19.7%			33 or 21%	31 or 19.7%	30 or 19.1%
1936-1937	181	28 or 15.5% 35 or 19.3%	7 or 3.8% 3.8%	46 or 25.4%			27 or 14.8%	64 or 35.3%	38 or 21%
1937-1938	148	20 or 13.5% 24 or 16.5%	4 or 3% 3%	61 or 40.1%			20 or 13.5%	62 or 40.2%	26 or 17.6%
1938-1939	139	23 or 16.5%		31 or 22.3%	100 or 72%	8 or 5.7%	18 or 13.7%	51 or 36.6%	10 or 7.2%

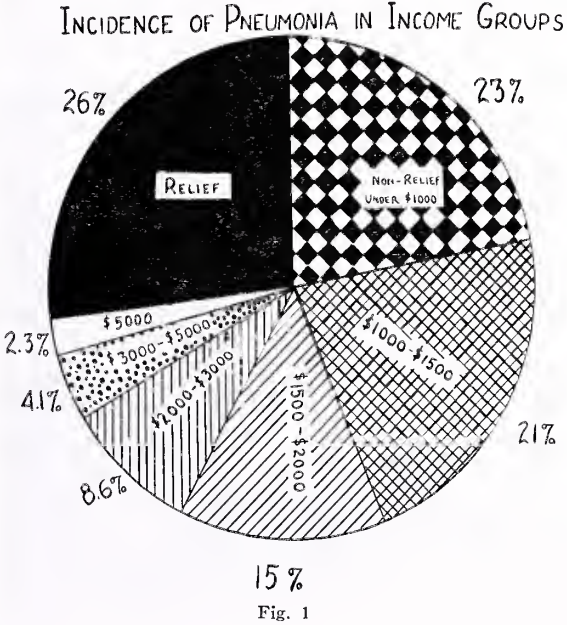
In 1935 only 19.7 per cent of total pneumonia cases were susceptible of specific therapy, and as a result the mortality in the whole group is high—19.1 per cent. In 1938-39 due to chemotherapy 100 per cent of cases were treated with a decrease in mortality rate to 7.2 per cent. These cases were comparable as to age, type incidence, bacteremic incidence, incidence of complications, etc.

expected that the physician should assume the burden of supplying, in addition to his own professional services, the therapeutic agents which are necessary in this disease. These we all agree should be provided to deserving patients.

Realizing the responsibility to the people of Pennsylvania and the possibilities for a great public health service, Dr. Shaw created in his department a special Division of Pneumonia Control, the purpose of the division being to devote its entire time and efforts in an attempt to reduce pneumonia deaths in this state. Accordingly, with the onset of the past pneumonia season a plan was put in effect with the following to offer:

Through the generosity of 178 private laboratories throughout the state, acting as pneumonia control stations, the facilities of the Department of Health were made readily available to every physician and every patient in the state. Adequate quantities of sulfapyridine, serum in all types, and any necessary laboratory service were all free at the physician's discretion to any pneumonia patient for whom the private purchase would work an undue hardship. The department recommended that any patient in whom the diagnosis of pneumonia was reasonably certain, and after base line specimens, sputum, blood cultures, blood counts, and urinalyses were obtained, be started on sulfapyridine. If after a period of 24 hours a satisfactory clinical response was not shown, specific serum was available and probably advisable. This régime has

been adopted by both the Army and the Navy. The physician, however, was free to use the treatment he preferred; if he wanted to use serum, this he got and no questions were asked. One request made of the physician and one which has been complied with most graciously was that at the completion of the case he take about 2 minutes of his time to fill out a clinical report and return it to our office. He has responded in 96 per cent of the cases in which facilities from the department have been used. This, we believe, is an unusually fine showing



and a confirmation of his interest and willingness to co-operate in the program.

One pneumonia season has passed since we pooled our resources and went to work. You undoubtedly will be interested to know just what has been accomplished, for we believe we have been successful in duplicating results on a state-wide basis previously demonstrated possible by local hospital groups. Since Nov. 1, 1939, more than 420,000 sulfapyridine tablets and more than 300,000,000 units of serum have been issued and used for some 9500 patients, 6 times as many patients as ever before treated from this same source in this state. Our mortality rate in 7655 cases tabulated to date has been just over 10 per cent. This figure is uncorrected and includes terminal cases with severe heart disease, cancer, etc.; it also includes cases without regard to such factors as days elapsing between onset of the disease and the beginning of therapy. If a patient dies within 6 hours of beginning treatment, the case is still a pneumonia death with someone as surely to blame as if the patient had been neglected entirely.

It is a source of extreme satisfaction to learn that in 7655 cases there were only 839 deaths. If this group had been untreated, the expected mortality would have been close to 2500. We are safe in assuming, therefore, that by adequate therapy approximately 1600 pneumonia deaths were prevented. Surely this does not represent the total number of cases receiving adequate medical care, for at least an equal number of patients were treated from private sources, and with a like reduction in mortality rate and a like number of patients spared, we should expect a drop in total deaths of 3000 to 3500.

Pennsylvania over the past 10 years has sacri-

ficed an average of 8696 of its citizens annually. This year only 4680 tombstones were erected in commemoration of the disease; 4000 Pennsylvania lives have, therefore, been prolonged. At least a major part of this reduction in mortality rate is attributable to adequate specific therapy to a larger number of patients, for never before has this figure been even closely approached. That this reduction is not merely a coincidence is further substantiated by the fact that an increase of 22.6 per cent in pneumonia morbidity was reported last year. The etiologic organism in 52.7 per cent of the typed cases was I, II, and III with the virulent Type III organism being the second most frequent etiologic agent and accounting for 15.4 per cent of the typed cases. Bacteremia was present in 16.6 per cent of these patients on whom blood cultures were taken. Considering the group evaluated, this is fairly high. Further experience and observation over a longer period of time, however, is necessary before we can be sure of our results.

Last fall at the time our program was being launched some opposition was encountered when it was suggested that sulfapyridine be incorporated. I believe the experience of the past season has vindicated the decision, for our mortality rate has been lower than with any other type of therapy used. Toxic reactions have certainly not been unduly severe.

Not only have we been successful in extending therapy to a larger number of patients but we have been able to reduce the mortality in treated groups. During the years 1937-38 and 1938-39, 1111 Type I and Type II cases were treated with a mortality rate of 14.8 per cent. This year 1330 Types I and II cases were treated

CLINICAL REPORT OF PNEUMONIA PATIENT TO BE COMPLETED BY ATTENDING PHYSICIAN AND MAILED																																	
PATIENT'S NAME <i>Donald W. White</i>		AGE <i>39</i>																															
OCCUPATION: <i> Carpenter</i>		TREATED IN ☒ HOME ☒ HOSPITAL																															
COLOR: <i>WHITE</i>	COLORED	TREATMENT BEGAN-DATE: <i>3/20/40</i>																															
SEX: <i>MALE</i>	FEMALE	TOTAL SULFAPYRIDINE USED: <i>25</i> GRAMS																															
DATE OF ONSET: <i>3/18/40</i>	CHILL FEVER RUSTY SPUTUM CHEST PAIN	TOTAL SERUM USED: <i>100,000</i> UNITS																															
1. ☒ LUNG	2. ☐ BRONCH	WAS OXYGEN USED: YES ☐ NO ☒																															
3. ☐ PNEUMONIA	4. ☐ UNSPECIFIED	RESULT: ☒ RECOVERED ☐ DIED																															
CONFIRMED BY X-RAY: YES ☐ NO ☐		INSTRUCTIONS FOR COMPLETING CARD PLEASE CIRCLE EACH CORRECT LINE OF INFORMATION WITHIN EACH SPACE PROVIDED. WRITE OR PRINT LEGIBLY IN																															
PNEUMOCOCCUS TYPE: <i>I</i>		RESULT: ☐ RECOVERED ☐ DIED DATE <i>8/17/39</i>																															
OTHER ORGANISMS: <i>Staph</i>		PHYSICIAN'S SIGNATURE: <i>John Smith</i>																															
ADDRESS: <i>618 Walnut St</i>		CITY: <i>Phila</i> STATE: <i>Pa</i>																															
<table border="1"> <tr> <td>1. PREGNANCY</td> <td>MONTH</td> </tr> <tr> <td>2. PUERPERIUM</td> <td>DAY</td> </tr> <tr> <td>3. SURGERY</td> <td>DATE</td> </tr> <tr> <td>4. HEART DISEASE</td> <td><i>Rheumatic</i></td> </tr> <tr> <td>5. OTHER INFECTIONS</td> <td>TUBERCULOSIS MEASLES PERTUSSIS ETC.</td> </tr> <tr> <td>6. OTHER CONDITIONS SPECIFY:</td> <td>DIABETES CANCER ALCOHOLISM ETC.</td> </tr> <tr> <td>7. COMING</td> <td>MILD MODERATE SEVERE</td> </tr> <tr> <td>8. LEUCOPENIA</td> <td></td> </tr> <tr> <td>9. ANEMIA</td> <td></td> </tr> <tr> <td>10. NEPHRITIS</td> <td></td> </tr> <tr> <td>11. OTHERS SPECIFY:</td> <td>SKIN LESIONS DELIRIUM CYANOSIS ETC.</td> </tr> <tr> <td>12. SERIOUS PLEURAL EFFUSIONS</td> <td>MILD MODERATE SEVERE</td> </tr> <tr> <td>13. EMPYEMA</td> <td></td> </tr> <tr> <td>14. OTITIS MEDIA</td> <td></td> </tr> <tr> <td>15. OTHERS SPECIFY:</td> <td>DEBILITATING - MENINGITIS - MENINGITIS - ETC.</td> </tr> </table>				1. PREGNANCY	MONTH	2. PUERPERIUM	DAY	3. SURGERY	DATE	4. HEART DISEASE	<i>Rheumatic</i>	5. OTHER INFECTIONS	TUBERCULOSIS MEASLES PERTUSSIS ETC.	6. OTHER CONDITIONS SPECIFY:	DIABETES CANCER ALCOHOLISM ETC.	7. COMING	MILD MODERATE SEVERE	8. LEUCOPENIA		9. ANEMIA		10. NEPHRITIS		11. OTHERS SPECIFY:	SKIN LESIONS DELIRIUM CYANOSIS ETC.	12. SERIOUS PLEURAL EFFUSIONS	MILD MODERATE SEVERE	13. EMPYEMA		14. OTITIS MEDIA		15. OTHERS SPECIFY:	DEBILITATING - MENINGITIS - MENINGITIS - ETC.
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DEPT. OF HEALTH - DIVISION OF PNEUMONIA CONTROL COMMONWEALTH OF PENNSYLVANIA CD 11 Fig. 2 442																																	

TABLE II
TYPE INCIDENCE OF PNEUMONIA IN PENNSYLVANIA

Type	No. of Cases	Per cent of Total	No. of Deaths	Mortality Per cent
1	852	22.91	70	8.21
2	534	14.36	41	7.67
3	573	15.41	94	16.40
4	174	4.67	20	11.49
5	147	3.95	10	6.80
6	94	2.52	15	15.95
7	288	7.74	21	7.29
8	272	7.31	20	7.35
9	42	1.12	5	11.90
10	34	.91	5	14.70
11	23	.61	7	30.43
12	37	.99	7	18.91
13	22	.59	1	4.54
14	110	2.95	12	10.90
15	37	.99	3	8.10
16	25	.67	1	4.00
17	38	1.02	5	13.15
18	49	1.31	10	20.40
19	79	2.12	10	12.65
20	50	1.34	7	14.00
21	20	.53	2	10.00
22	28	1.47	3	10.71
23	30	.75	3	10.00
24	34	.91	4	11.76
25	32	.86	4	12.50
27	27	.72	0	0
28	12	.32	2	16.66
29	25	.67	1	4.00
30	2	.05	0	0
31	14	.37	3	21.42
32	11	.29	3	27.27
33	3	.08	0	0
	3718	100.00	839	10.46

with a reduction to 7.16 per cent. If we believe that little variation is shown in the virulence of these organisms from year to year, we must conclude that better therapy has been responsible for this beneficial result. Our serum mortality

for Types I and II cases this past season was 12.87 per cent, only slightly lower than previously reported.

Our figures fail to show any immediately apparent advantages of combined therapy over sulfapyridine alone; in fact, the mortality rate has been higher in this group. A careful evaluation, however, at least partially explains these results. The type incidence is somewhat different in the 2 series; with sulfapyridine only 11.49 per cent of cases are due to Types I and II, while 47.31 per cent of the combined series were due to these organisms. Yet a lower mortality rate was reported for the disease due to these organisms than from the higher types. Type III was responsible for only 5.7 per cent of cases treated with sulfapyridine, while responsible for 16.17 per cent in combined cases. Again, however, the mortality was 7 per cent lower in the sulfapyridine alone series. The bacteremic incidence in the sulfapyridine alone series was 13.15 per cent, while in the combined series it was 27.46 per cent, a significant difference. For Type I the bacteremic incidence combined was 21.36 per cent, while for the drug alone it was 13.2 per cent; for Type II, drug alone 31.81 per cent, combined 30.88 per cent; for Type III, sulfapyridine alone 13.07 per cent, combined 17.10 per cent; for Types V, VII, VIII, and XIV, drug alone 15.5 per cent, combined 29.41 per cent.

These data are certainly significant and indicate that patients receiving combined therapy were undoubtedly much sicker. Age groups were fairly comparable in the 2 series. The incidence of accompanying conditions was only very slightly higher in the combined series. The factor of interval between the onset of the dis-

TABLE III
PNEUMONIA MORTALITY BY SELECTED TYPES

SULFAPYRIDINE				SERUM			COMBINED			SULFATHIAZOLE			NON-SPECIFIC		
Cases	Deaths	Mort.%		Cases-Deaths-Mort.%			Cases-Deaths-Mort.%			Cases-Deaths-Mort.%			Cases-Deaths-Mort.%		
5935	592	9.97		187	27	14.43	1175	161	13.7	330	33	10.0	175	38	21.71
Type															
I	399	25	6.26	63	6	9.52	351	36	10.25	56	2	3.57	7	1	14.28
II	283	17	6.00	38	7	18.42	205	15	7.31	12	1	8.33	3	2	66.66
III	338	46	13.6	17	4	23.52	190	39	20.52	41	7	17.07	11	1	9.09
V, VII															
VIII & XIV	490	24	4.89	35	3	8.57	236	31	13.13	76	3	3.94	16	3	18.75
Others	740	75	10.13	29	5	17.24	179	37	20.67	80	9	11.25	25	7	28.00
00	3421	375	10.96	5	2	40.00	12	2	16.66	61	11	18.03	108	23	21.29
99	264	30	11.3	0	0	0	2	1	50.00	3	0	0	5	1	20.00

ease and the beginning of therapy was fairly comparable in the 2 series.

A few interesting observations are apparent from our statistics, which are unusual and are not what we have been led to expect. (1) The mortality has been higher in the so-called higher types than in the lower more common types I, II, V, VII, and VIII. (2) The mortality rate is highest in those cases which were not typed. (3) The mortality rate has been exceedingly high, 40 per cent, in the serum-treated cases where a specific etiologic organism was not discovered and Types I and II serum were given in the hope that one of these organisms would be responsible. This is an unscientific and ineffective way of treating pneumonia, is expensive, and should be discontinued.

Pneumonia, a very important disease in Pennsylvania and for years one of the leading causes of death, is vulnerable to specific therapy. With continued close co-operation between all agencies concerned, more and more patients can be brought under better and better treatment earlier in the disease. The reward will be an ever decreasing death rate and soon this one-time "Captain of the Men of Death" will no longer appear on our mortality charts among the first 10 causes of death. The experience of the past year has proven beyond a shadow of a doubt the possibilities, and with your co-operation and approval the State Department of Health would again like to assist in this work by making avail-

able, through its 178 co-operating pneumonia control stations conveniently located throughout the state, adequate quantities of sulfapyridine, sulfathiazole, serum in all types, blood culture bottles and media, etc., and whatever laboratory facilities are necessary in order that your patient may have the benefit of adequate bacteriologic diagnosis and proper observation, blood counts, urinalyses, etc., while under therapy. We should again like to make these available, at your discretion, free to any pneumonia patient for whom the private purchase of the same would work a financial hardship.

In lieu of the experience of the past season, the department would like to recommend that every patient in whom the diagnosis of pneumonia is reasonably certain and susceptible of specific therapy, and after base line specimens have been obtained, be started on either sulfapyridine or sulfathiazole. Most patients will respond, and serum, which is expensive and associated with some difficulties in use, will not be necessary. However, if a satisfactory clinical response is not had after 24 hours of drug therapy, the specific etiologic agent will be known and serum can be used. We know that a certain per cent of patients are drug-resistant and others, due to overwhelming infection, may die without the benefits of this valuable therapeutic agent. It is, therefore, essential that the physician prepare for any eventuality by obtaining specimens for bacteriologic diagnoses, both spu-

TABLE IV
COMPARISON OF SULFAPYRIDINE AND SULFAPYRIDINE PLUS SERUM-TREATED PNEUMONIA

	No. of Cases	% of Total	Bacteremic Incidence on cases having cultures done	Incidence of Complications	Incidence of Concurrent Diseases	Age Groups					Mort. %
						Und. 2	2-12	13-60	Over 60	Unknown	
<u>SULFAPYRIDINE</u>											
Type I	399	6.72	13.20	13.28	18.29	1.75	16.04	65.16	13.03	4.01	6.26
Type II	283	4.76	31.81	8.48	19.78	1.76	10.60	65.72	13.42	8.48	6.00
Type III	338	5.69	13.07	7.98	34.91	.59	5.32	62.72	27.81	3.55	13.60
Types V, VII, VIII & XIV	490	8.25	15.50	8.16	21.12	4.08	8.36	69.79	13.26	4.48	4.89
Higher Types	740	12.46	12.04	10.67	33.37	6.48	10.54	57.70	18.24	1.62	10.13
00	3421	57.64	9.98	13.15	24.52	13.24	27.68	40.48	14.03	4.56	10.96
99	264	4.44	21.12	16.66	25.00	5.30	15.53	57.95	17.04	4.16	11.3
<u>SULFAPYRIDINE AND SERUM</u>											
Type I	351	29.87	21.76	14.24	19.94	1.99	6.55	78.63	9.40	3.41	10.25
Type II	205	17.44	30.88	14.14	15.60	0	1.95	81.46	10.73	5.85	7.31
Type III	190	16.17	17.10	13.68	33.15	0	2.10	63.68	29.47	4.73	20.52
Types V, VII, VIII & XIV	236	20.08	29.41	10.59	31.77	3.38	4.66	69.91	16.10	5.93	13.13
Higher Types	179	15.23	26.15	17.31	37.43	3.35	6.14	68.71	19.55	2.23	20.67
00	12	1.02	0	25.00	16.66	0	0	83.33	16.66	0	16.66
99	2	.17	0	100.00	0	0	50.00	50.00	0	0	50.00

tum and blood cultures, before treatment is started, so that no delay will result should other than chemotherapy become necessary.

Your clinical reports during the past season have given us something definite in regard to the pneumonia problem in Pennsylvania. We have a clear idea of just what the mortality per cent has been, and we know the kind of patients we are treating. We know the type incidence, the bacteremic incidence, etc., and we know just what has been accomplished by the adequate use of various therapeutic agents. Help us to continue to collect this material by filling out a clinical card provided for you on every pneumonia patient whether using facilities from the department or not. You send them in and we'll try to combine your efforts and return to you a statistical evaluation which will be of great value.

Much has been accomplished in Pennsylvania

in pneumonia control work with, as our statistics show, gratifying results. We are proud of our program which, to quote Dr. Adolph S. Rumreich, of the U. S. Public Health Service, is the best, most complete, up-to-date pneumonia program in the United States. We have reached more patients than any other state in the Union, yet even so only 50 per cent of our pneumonia cases are being adequately treated and our mortality rate is still 2000 higher than it should be. Continued education of the laity, so that the individual who gets pneumonia will put himself early into the hands of a competent physician, and proper use of available facilities will accomplish the end for which we strive. Our goal should be every pneumonia patient under adequate therapy and our mortality not 8600, where it always has been, but about 3000, where it should be.

PHYSICIAN'S REACTIONS TO BOMBING TOLD BY LONDON CORRESPONDENT

The reactions of a Harley Street physician to the German bombings, to which he and his fellow Londoners are being subjected, are told by a special London, England, correspondent of *The Journal of the American Medical Association* in the Nov. 23 issue of *The Journal*. His communication, dated Oct. 17, follows:

"This is a quiet night after 2 unpleasant ones. I am writing to you in bed in my ground floor back room (which I prefer to the basement, where my family sleeps). I can hear the throbbing hum of an occasional German plane overhead and the quick thud-thud of our anti-aircraft guns, but only at odd intervals. We in London have settled down to the queer sort of life we are living and have no intention of leaving it, quite why I don't know, for friends out of London are always urging us (and other people) to leave it, but mostly because one feels that if one leaves London the Germans have got us even that amount down, and we're not having that. The night before last was the first night I have actually got out of bed, dressed fully, had my (already packed) suitcase handy, and told the others downstairs to get their clothes on and prepare to leave the house at a minute's notice; we didn't actually have to, but from my window I could see a house only two away from us (round the corner) blazing away after an incendiary bomb, and another house about four or five the other side has had its back bombed and partly demolished. I thought the flames might reach us but they didn't, for our fire services are very efficient indeed and soon got it under control. We always feel that it might have been us or it might be us tonight, but one gets very fatalistic about it all and the casualties are really infinitesimal as compared with the damage done, and even that, though bad enough, is only a flea bite when you look at London as a whole. The population is as determined as ever not to flinch from the blows the Germans are giving us, and we know that we are now hitting them just as hard. I happened to turn the radio tonight by accident to the Bremer station, when

the announcer we call 'Lord Haw-Haw' (from his affected voice) was talking; his description of the last raid on London I knew from personal observation was perfect nonsense; why he had to exaggerate so ludicrously I can't understand for, of course, they have done some damage quite worth describing from his point of view; apparently he prefers absurd lies to the quite horrid enough truth, as a matter of policy.

"I was in a tube (subway) yesterday for the first time for a long time and was much interested to see the quiet underground life that has sprung up among a large section of our population—a life with customs and laws of its own. I was there about 3:30 p.m. and already along the walls, in the subway stations, blankets, suitcases, folding chairs, or pillows had been laid down in an orderly manner to reserve places. A few youngsters and old people were already in their places, prepared to stay there until the next morning, about 7 o'clock. Surface shelters have been provided pretty freely in all streets, but thousands of people prefer the comparative discomfort but warmth, light, and freedom from noises of gun fire and bombs and the feeling of perfect safety deep down in the passages, stairways, and station platforms of our underground railway. The government discouraged it and tried to make rules about it, but the population took matters into their own hands and made their own unwritten but strictly obeyed rules for this sort of thing.

"Otherwise things go on as before. My telephone has been off (cables damaged by bombs) for a week, but water, gas, and electricity are all right. No signs of shortage of food or any real essentials."

To be mery in the herte is a grete remedie for helth of the body.—Bishop of Arusiens (1485).

Pain is the fire alarm of danger, but stopping the alarm does not put out the fire.

A library is not a luxury; it is one of the necessities of life.

Sulfathiazole in the Treatment of Pneumonia

LEON SCHWARTZ, M.D., and HARRISON F. FLIPPIN, M.D.
Philadelphia, Pa.

THE dramatic results which have been obtained with sulfapyridine in the treatment of pneumococcic infections have reopened the entire field of chemotherapy in pneumonia. There can be no doubt now that the introduction of sulfapyridine in the therapy of pneumonia has been the greatest advance in the treatment of this disease. The enthusiasm which attended the successful use of sulfapyridine is now being transferred to a new sulfanilamide compound, sulfathiazole. Personal experience with over 700 pneumonia patients treated with sulfapyridine and 300 pneumonia patients treated with sulfathiazole leads us to believe that sulfathiazole will probably replace sulfapyridine as the principal therapeutic reliance in pneumococcic pneumonia. This paper includes a brief review of the experimental data pertaining to the use of sulfathiazole in pneumococcic infections and presents the results of our clinical experience with this drug in the treatment of pneumonia.

Sulfathiazole

Sulfathiazole, 2-p(aminobenzenesulfonamido)thiazole, is the thiazole analogue of sulfapyridine. In vitro studies showed that sulfathiazole is superior to sulfapyridine in its bacteriostatic action upon several types of pneumococci. Experimental work in mice indicates that the therapeutic effect of sulfathiazole is equivalent to that of sulfapyridine. It has been demonstrated that sulfathiazole is more rapidly absorbed and excreted by mice, rats, and monkeys and undergoes less conjugation in rats and monkeys than sulfapyridine. Furthermore, it has been found in mice that sulfathiazole has a relatively low degree of toxicity when compared to sulfapyridine. Studies in man show that sulfathiazole is absorbed more readily than sulfapyridine from the gastro-intestinal tract and is excreted more rapidly in the urine. The administration of comparable amounts of sulfapyridine and sulfa-

thiazole to patients suffering from pneumonia results in lower concentrations of sulfathiazole in the blood because of the more rapid excretion of this drug by the kidneys, and because of lower concentrations in the red blood cells.

Clinical Observations

On comparing the therapeutic effectiveness of sulfapyridine and sulfathiazole in pneumococcic pneumonia, it was found that the effects of the 2 drugs on final mortality were approximately equal. Clinical response, as evidenced by a fall in temperature, was somewhat more rapid with sulfapyridine than with sulfathiazole. This apparent advantage had no effect on the incidence of complications nor on the duration of hospitalization for the 2 therapeutic groups. In general, the toxic effects of sulfathiazole are similar to those caused by sulfapyridine, but they occur less frequently and with less severity. Nausea and vomiting, a most troublesome and often distressing toxic effect of both drugs, is definitely less marked in frequency and severity in the sulfathiazole-treated patients. The more serious toxic reactions, such as renal involvement, blood dyscrasias, and dermatitis, have been infrequent with the use of sulfathiazole in pneumonia, probably because the hazard of severe toxic reactions increases with prolonged use of the drug, and most pneumonia patients require therapy for no more than 5 days.

Contraindications

A history of a previous sensitivity to a member of the sulfanilamide group of drugs, as manifested by drug fever, agranulocytosis, gross hematuria, dermatitis, hepatitis, or acute hemolytic anemia, is the only possible contraindication to sulfathiazole treatment. If the circumstances warrant, even in spite of a known sensitivity, the drug can be given with extra precautions. The presence of anemia, leukopenia, or jaundice before therapy is commenced does not contraindicate treatment with sulfathiazole. In our experience we know of no medication which cannot be given in addition to sulfathiazole.

Read before a General Meeting of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 3, 1940.

From the Committee for the Study of Pneumonia, Philadelphia General Hospital. This paper was prepared with the collaboration of Jefferson H. Clark, M.D., S. Brandt Rose, M.D., and John G. Reinhold, Ph.D.

Aided by a grant from the American Philosophical Society.

TABLE I

DISTRIBUTION OF TYPES AND MORTALITY RATES
(300 Cases)

Type	Number	Died	Mortality Per Cent
I	47	2	4.3
II	7	1	14.3
III	39	8	20.5
Others	143	12	8.4
Nontyped	64	6	9.4
Total	300	29	9.7

Therapeutic Results

The results of sulfathiazole treatment in 300 adult pneumonia patients are presented in Table I. Included are all patients in whom the diagnosis of pneumonia was made, regardless of the duration of drug therapy. If 11 patients who died within 24 hours after admission are excluded, the corrected mortality becomes 6.2 per cent. Positive blood cultures were obtained in 32 of the typed cases, with a mortality rate of 32 per cent (corrected mortality 22 per cent). In addition to sulfathiazole therapy, type-specific serum was used in 17 patients, of whom 6 died. Included in the group receiving combined therapy were 7 patients with bacteremia, 3 terminating fatally.

As previously mentioned, the effect of sulfathiazole on the clinical course of typed pneumococcic pneumonia, as judged by a fall in temperature, is less dramatic than that observed with the use of sulfapyridine. The drop in temperature is slower and it approaches normal more gradually. This apparent advantage of sulfapyridine, which is probably in part the result of its antipyretic effect, may be a disadvantage in light of in vitro studies, which show accelerated bacteriostatic effectiveness of sulfanilamide and sulfapyridine with increased temperature. In the nontyped cases, especially those in which the predominant organism was an untypable pneumococcus, sulfathiazole was in general equally efficacious. In some instances the drug had little or no effect. Undoubtedly some of these represent virus infections.

TABLE II

INCIDENCE OF COMPLICATIONS
(300 Cases)

Complications	Incidence Per Cent
Massive effusion	5.0
Empyema	1.0
Otitis media	0.3
Endocarditis	0.3
Metastatic abscess	0.3

Complications

The incidence of complications in pneumonia has been definitely reduced with the use of sulfapyridine, and comparable results have been obtained with sulfathiazole (Table II). Massive pleural effusion, necessitating therapeutic aspiration, occurred in 5 per cent of the patients, although empyema was detected in only 1 per cent. One of the 3 empyema patients died, as did a single case of endocarditis. Not included in this report are those cases with the diagnosis of empyema on admission.

Toxic Effects

The most frequent toxic effects of sulfathiazole therapy were nausea and vomiting (Table III). Both symptoms appeared usually during the first 24 hours of drug treatment. Severe vomiting, necessitating stopping the drug, occurred in only 1 per cent of the patients. Furthermore, two-thirds of the vomiting which was observed was mild, occurring less than 3 times.

TABLE III

INCIDENCE OF TOXIC REACTIONS
(300 Cases)

Toxic Reaction	Incidence Per Cent
Nausea	25.0
Mild	14.0
Moderate	6.0
Vomiting*	1.0
Severe	1.0
Total	21.0
Microscopic	9.0
Hematuria Gross	0.0
Total	9.0
Dermatitis	4.0
Conjunctivitis	1.0
Arthritis (with subcutaneous nodules)	0.7
Renal calculi	0.3
Leukopenia (below 5000 white blood cells)	3.0
Drug fever?	3.0
Psychosis?	3.0

* Mild—less than 3 times
Moderate—3 or more times
Severe—necessitated stopping drug.

Microscopic hematuria was seen in 9 per cent of the patients, but gross hematuria was not observed. Frequently, during the course of treatment, crystals of the drug or of derivatives were detected in the urine. In a patient suffering with endocarditis, terminating fatally, crystals of acetylsulfathiazole in the pelvis and tubules of both kidneys were found at necropsy. Anuria, caused by the drug, was not seen, although a transient reduction in urinary output during treatment was noted quite often.

Dermatitis was observed in 4 per cent of patients. These skin eruptions were maculopapular or urticarial. One per cent of the patients developed conjunctivitis, and 2 in this group had, in addition, joint pain and purplish-red subcutaneous nodules similar to the lesions of erythema nodosum. Although fever and psychosis from sulfathiazole therapy are both difficult to evaluate in pneumonia patients, we made the diagnosis of each condition in 3 per cent of our cases.

Repeated blood studies showed little or no depression of the hemopoietic system during drug administration. There were no cases of acute hemolytic anemia or agranulocytosis. In most instances the white blood cell count tended to drop during the first 48 hours coincidentally with clinical improvement. White blood counts below 5000 were noted in 3 per cent of the patients, and in only 2 instances was a relative granulopenia (less than 50 per cent polymorphonuclears) observed. The red blood cell count and hemoglobin fell in a number of cases, but in view of the marked dehydration and consequent hemoconcentration of most of our patients on admission, it has been difficult to evaluate this apparent anemia. Recent studies indicate that sulfathiazole does not penetrate into the red blood cells as readily as sulfapyridine, and we would therefore expect a lower incidence of chronic hemolytic anemia with this new compound. No cases of hepatitis have been noted which could be attributed to the drug.

Routine Management

In the treatment of patients with pneumonia it is impossible to make hard and fast rules, as each patient must be handled as an individual case. However, we endeavor to follow a certain routine in the management of patients on our pneumonia wards (Table IV). As soon as the diagnosis of pneumonia is established, specimens for routine laboratory studies (complete blood count, urine, sputum, and blood culture) collected, and a negative history of sensitivity to sulfonamides elicited, treatment is instituted at once.

Sulfathiazole (Dosage).—An initial 3 Gm. dose by mouth is repeated in 4 hours and then followed by 1 Gm. every 4 hours thereafter (unless signs of severe toxicity develop) until the required total dosage has been administered. Treatment on this dose schedule, which usually maintains a satisfactory level of free drug in the blood, is continued until the temperature remains normal for 48 hours and the patient shows evidence of clinical improvement. It is impor-

TABLE IV

ROUTINE MANAGEMENT OF PNEUMONIA

1. Collection of specimens for complete blood count, urinalysis, sputum typing, and blood culture.
2. History of previous sulfonamide medication for possible toxicity.
3. Prompt institution of sulfathiazole.
Dosage:
Oral—3 Gm., repeated in 4 hours, followed by 1 Gm. every 4 hours.
Intravenous—0.06 Gm. per kilogram of body weight (sodium salt, 5 per cent solution).
Total—Continue treatment, unless severe toxicity develops, until temperature is normal for 48 hours along with evidence of clinical improvement (average 30 to 35 Gm.).
4. Type-specific serum—indications for:
 - a. Failure of drug to effect response within 36 to 48 hours (Type III infection, bacteremia, drug fastness).
 - b. Drug sensitivity.
5. Adequate fluid balance—maintain daily urinary output of 1200 c.c. or over; parenteral fluids, if necessary.
6. High carbohydrate and salt intake.
7. Watch for:
 - a. Drug toxicity—jaundice, skin rash, fever, hematuria, azotemia, anemia, etc.
 - b. Complications or spread in infection.
8. Adjuvants—oxygen, opiates, enemata, poultices, etc.

tant to bear in mind that a recurrence or spread in the infection will occur if treatment is discontinued too early. Not infrequently the initial clinical improvement, as judged by a fall in temperature, proves to be deceptive, so that carefully performed physical examinations are important to detect possible extension of the infectious process. In general, the total dosage is about 35 Gm. If patients are unable to co-operate to the extent of taking oral medication, the drug may be given through a tube introduced by way of the nose into the stomach.

Sulfathiazole Sodium.—In certain instances, when a rapid elevation of the blood level of the drug is desired or oral medication is impractical, a 5 per cent solution of sulfathiazole sodium (0.06 Gm. per kilogram of body weight) in sterile water can be given intravenously. This dosage should be repeated within 6 hours, although in our experience it is rarely necessary to give more than 2 intravenous injections.

Serum.—In view of the greater effectiveness of sulfathiazole over serum in the treatment of pneumococcic pneumonia, we find it advisable to resort to chemotherapy in all cases when possible, but under certain conditions to use serum alone or serum and drug in combination. Serum is used alone in patients with a known sensitivity to the sulfonamides or who develop the same during treatment with sulfathiazole. The com-

bined use of serum and chemotherapy is resorted to in those patients in whom drug treatment has failed to bring about the expected clinical response within 36 to 48 hours.

In the light of our experience it would seem advisable to give serum in addition to sulfathiazole in Type III infections and when the blood culture reveals a high colony count. When administering serum the usual preliminary sensitivity tests, conjunctival and intradermal, are performed. If these are negative after 20 minutes, further intravenous testing with undiluted serum (1 c.c.) is carried out. One should wait 70 minutes for a possible untoward reaction, and if none is detected, the patient may be given an initial dose of 100,000 units of undiluted serum intravenously, and this may be repeated as necessary.

Fluid Balance.—With the advent of chemotherapy the maintenance of an adequate fluid balance is of added importance. In order to facilitate the excretion of acetylsulfathiazole by the kidneys, a urinary output of at least 1200 c.c. daily should be maintained. If necessary, fluids may be given parenterally to insure this output. The intravenous use of glucose in salt solution is of value in restoring normal fluid and electrolyte balance in the patient who is dehydrated. It is advisable also to add extra carbohydrate and salt to the diet of all patients suffering with pneumonia.

Alkalis.—The advisability of administering alkalis with sulfathiazole in the treatment of pneumonia is still theoretic. Certainly the administration of equal amounts of soda bicarbonate or sodium citrate with the drug can do no harm, but we are uncertain whether it is of definite value.

Oxygen.—The rational method of treating cyanosis and dyspnea in pneumonia is by the efficient administration of oxygen. It is of definite value in affording symptomatic relief and is probably at times a life-saving measure. However, we feel that its use in many cases is not indicated and in some proves to be harmful. At the present time we resort to the use of the portable oxygen tent or the B.L.B. oxygen mask.

Adjuvants.—The use of opiates for controlling pain, restlessness, cough, and insomnia is important in the treatment of pneumonia. Digitalis is administered in proper amounts when indicated, but is not used as a "tonic." With chemotherapy the occurrence and severity of abdominal distention has been lessened, but when it occurs it demands prompt attention. Enemas are preferable to cathartics and, if necessary, should be supplemented by turpentine

stupes or flaxseed poultices. When distention is marked, hypodermic injections of prostigmin or pituitrin are often beneficial. However, it is advisable beforehand to insert a rectal tube to facilitate the passage of gas. In selected cases of distention, we have found the use of the Wangenstein apparatus effective when other methods have failed. Whiskey and brandy are helpful remedies, especially in the aged and in chronic alcoholics. Finally, the most important aid in the successful treatment of a patient with pneumonia is good nursing, as there is probably no disease in which the services of well-trained nurses are more valuable. In this respect the patients on our pneumonia wards are most fortunate.

Sulfathiazole Blood Levels

Several factors such as kidney function, drug absorption, and the state of dehydration are responsible for the individual variation in the concentration of sulfathiazole in the blood. Our data fail to show any correlation between therapeutic effectiveness and the blood level of free drug in the range of 2 to 15 mg. per 100 c.c. It appears that therapeutic action is not enhanced by establishing concentrations of the free form above 5 mg. per cent. It is reasonable to believe that if a free level of 5 mg. per cent is maintained, satisfactory results should be expected. Levels exceeding this limit have been shown to be associated with a greater frequency of vomiting. Also, there exists a relationship between high concentrations of acetylsulfathiazole and hematuria.

Drug Failures

Sulfathiazole, like other members of the sulfanilamide group, exerts maximum effectiveness in a relatively short period of time. The failure of a patient suffering with pneumonia to respond to sulfathiazole therapy within 48 hours usually suggests several possibilities. First, an overwhelming infection with spread probably accompanied by bacteremia. Such cases should be given the benefit of type-specific serum in addition to the drug. Second, the presence of a localized suppurative process, such as empyema, in which case surgical intervention is necessary. Third, the possibility of drug fastness must be borne in mind, although this condition is very rare. Serum is indicated in these cases. Finally, the causative agent of the infection is an organism not affected by the drug, such as a virus, and it is best to stop chemotherapy in this type of infection.

Precautions

When sulfathiazole is used in the treatment of pneumonia, it is important that the patient be closely followed for signs of drug intoxication. Vomiting is rarely severe enough to warrant stopping the drug, although in cases of persistent vomiting it is well to have a blood chloride determination and an accurate check kept on urinary output. Microscopic hematuria and urinary crystals of the drug do not require discontinuance of chemotherapy, but they may lead to severe renal insufficiency and should be watched closely. Gross hematuria or loin pain has not been observed by us but should be looked for, and it is generally best to stop sulfathiazole if either occurs. Drug fever may occur at any time, but it is most commonly seen after the fifth day of treatment, at which time the drug has usually been stopped. If not, treatment should be discontinued and fluids forced. Drug rashes are seen at any time during sulfathiazole medication. Whether therapy should be continued or not depends on the severity of the infection.

Repeated blood counts for evidence of anemia and neutropenia are important, although there have been no reports as yet of acute hemolytic anemia or agranulocytosis following the use of sulfathiazole. If the hemoglobin falls below 40 per cent, blood transfusions should be given and the drug can be continued unless acute hemolytic anemia occurs.

Conclusion

Our clinical experience with various chemotherapeutic agents for the treatment of pneumonia leads us to believe that the drug of choice at the present time for the treatment of pneumococcal pneumonia is sulfathiazole.

We wish to express our thanks to John J. Shaw, M.D., Secretary of Health, Commonwealth of Pennsylvania, for his interest and aid in this and related studies on pneumonia.

ABSTRACT OF DISCUSSION

JOHN J. SHAW (Harrisburg): First and foremost, I want to thank the members of the State Medical Society for the wonderful co-operation that has been given the Department of Health. I mean particularly the Advisory Board of the Department of Health, the Commission for the Study of Pneumonia Control, and its chairman, Dr. Bortz.

We have always felt that the Department of Health, while it may institute programs, should after all be a clearing house for the physicians of the state whereby we, all together, can attempt to work out a program properly. We have cause to rejoice after hearing these 2 wonderful papers this morning. I believe that nowhere in the country—in fact, I know that now-

where at this time or at any time during the past year has there been such an accumulation of cases with indisputable scientific data from which to draw conclusions, which we must have if we are to treat pneumonia properly.

There are some things, however, we must consider. At Pittsburgh in 1939, at the State Medical Society meeting, when there was great discussion as to serum therapy versus chemotherapy, there were 2 groups, with the best intentions in the world, divided in opinion by a wide margin as to the proper mode of attack in a program for pneumonia control. I thought it was my duty in conjunction with the profession to give both chemotherapy and serum a trial, and after it had been given a trial, await the decision of the profession as to the proper procedure to follow in the future.

The 7655 cases reported by Dr. Stahle plus the 300 cases of Drs. Schwartz and Flippin show that the pendulum has swung so terrifically from serum to chemotherapy, with indisputable statistics, that we are now about ready to seek a further reduction in the death rate and also gradually ease off on serum. That is a revolutionary statement, but these indisputable facts say to us, not from an economic standpoint but from the standpoint of saving lives, that that is exactly what we should do.

Some people in other states thought that we had a lot of nerve to get out on a limb with regard to chemotherapy. Maybe it will take a little intestinal fortitude to become revolutionary and to run away a little from serum. However, the department will continue to furnish serum in all types and sulfapyridine, and sulfathiazole is to be added the coming year.

In a paper presented before the Section on Clinical Laboratory Medicine, Dr. Constantine P. Faller reported in the neighborhood of 161 or 165 deaths from pneumonia which he had reviewed and traced back to learn whether or not they really were from pneumonia. He found that over 16 per cent of the cases did not have pneumonia. They are included in Dr. Stahle's statistics. When we stop to realize that the death rate was only 10 per cent in the entire group of cases, which included last-minute cases where the patient had an hour in the hospital and then death, complicated with tuberculosis, cancer, pregnancy, and so forth, and that now Dr. Faller has found a fallacy of 16 per cent in the diagnoses, we are safe, I think, in taking from the 10 per cent death rate at least 5 per cent.

As brought out by Dr. Faller, the clinical diagnosis is the most important thing in determining the cause of death. The personal equation plays such a part in that, unfortunately, that I see no way of doing anything about it. However, there is one thing we can do to better our statistics next year, with the probability that we will be able to save more lives, and that is, to have something in our statistics to which we can point a finger and say, "This is definitely known. This patient definitely died of pneumonia."

There are only 2 ways whereby we will definitely know what the mortality is. One is to ask that every case be typed. In that way we will be quite sure to get a good sputum analysis. Second, it would be a good thing to make a white count mandatory in each case.

Statistics usually lie, but this time I think we are on the right side of the ledger. I believe we are cheating ourselves. That may sound strange to you, but I think the results next year will prove it.

In closing, I should like to make a plea to the Sec-

tion on Clinical Laboratory Medicine. I believe the Health Department will do better work if this section will institute a drive whereby the laboratories of this state will type pneumonia by some standard method just as the premarital and Wassermann tests have been standardized. I believe this is necessary, because in the last analysis this work must be good, for statistics to be accepted must be laboratory-perfect. The laboratory can use 3 things to make these statistics bullet-proof—the blood culture, the white blood cell count, and the sputum. If the State Medical Society through its Section on Clinical Laboratory Medicine will do that, I will gladly co-operate with everything that I have, so that it shall come into being.

KENNETH S. TREIBER (Erie): I should like to ask Dr. Schwartz about the use of nicotinic acid to control nausea and vomiting. Also, what alkalis are used with sulfathiazole?

DR. SCHWARTZ: The question of the use of nicotinic acid is one that we investigated last year, and in an alternate series of cases we found that nicotinic acid had practically no effect in decreasing the vomiting. As a result, we have given up the use of nicotinic acid for this purpose.

Alkalis were used first with sulfanilamide because

of the reports of acidosis that occurred with sulfanilamide. As far as I know, there have been no reports of acidosis with sulfapyridine or with sulfathiazole, and from that standpoint alkalis are unnecessary.

Recent work has shown that any change in the alkalinity of the urine brought about by the use of alkalis has little or no effect on the solubility of crystals that might be found in the urine, so that from these reports we have decided that the use of alkalis with sulfapyridine or sulfathiazole is unnecessary.

SAMUEL RUBIN (Philadelphia): Have you used tragacanth to lessen vomiting in children? And what is the dosage?

DR. SCHWARTZ: We have not used tragacanth with the sulfonamides. The use of various demulcents, as far as the vomiting with sulfapyridine is concerned, has been tried by various investigators with indifferent results. The results with these agents have not been constant and have been far from satisfactory in preventing vomiting with sulfapyridine.

In general, the dosage in children is about 1 to 1½ grains, either of sulfapyridine or sulfathiazole, per pound of body weight every 24 hours, divided into 4 to 6 doses. The initial dose is from one-half up to the entire calculated total dose for one day.

JOURNAL POINTS OUT FALLACIES IN LIBERTY MAGAZINE EDITORIAL

The fallacy of claims regarding the abilities of homeopaths, osteopaths, naturopaths, and chiropractors, made in an editorial in the current issue of *Liberty*, which urges the commission of such practitioners in the army medical service, is pointed out by *The Journal of the American Medical Association* in an editorial in its Nov. 30 issue. *The Journal* says:

"In the current issue of *Liberty* Mr. Barnarr Macfadden, its publisher, signs an editorial in which he proposes that homeopaths, osteopaths, naturopaths, and chiropractors be given a chance to demonstrate the value of their methods, using the soldiers of the American army as guinea pigs. He cites statistics to indicate that osteopaths lost only one-fourth of 1 per cent of their patients from influenza in the 1918 epidemic and that physicians lost from 5 to 6 per cent. He says that osteopaths had a fatality record of 10 per cent for pneumonia as compared with a medical fatality record of 33 per cent. As for the chiropractors, Mr. Macfadden indicates that they claim even better records.

"Obviously, the validity of such statistics is highly questionable, even taking into account the fact that anybody who gets sick enough gets a physician and that therefore mortality rates would naturally be higher for the seriously sick than for people who are not seriously sick. Furthermore, there would also be a considerable amount of doubt as to the diagnoses made by incompletely and peculiarly trained cultists as contrasted with the scientific diagnoses made by physicians. People who diagnose in their patients diseases which do not exist find it easy to cure such cases. When a common cold is called influenza and pneumonia, it is easy to claim a cure. Many a cold gets well without any treatment whatever.

"Mr. Macfadden complains, incidentally, that the soldiers overeat and that their work is not sufficient to take up their food intake. This generalization is made,

of course, without the slightest knowledge on his part of just how much soldiers eat or of the considerable scientific attention that is being given to nutrition for American soldiers. Fortunately for the American soldier the medical corps is under the direction of competent officials, and the work of that department is, in turn, controlled by the general staff. No doubt these men realize their obligation to the young men who are under their care and will not permit themselves to be swayed by the extravagant claims of irresponsible cultists or by the distorted diatribes of Barnarr Macfadden."

POSSIBILITY OF DELAYED POISONING DUE TO LEAD OF EMBEDDED BULLET

The possibility of delayed lead poisoning from embedded bullets should be considered in making a decision as to the removal of the bullets, Willard Machle, M.D., Cincinnati, declares in *The Journal of the American Medical Association* for Nov. 2. He reports 2 such cases.

Although some physicians believe that bullets remaining in tissues cannot give rise to lead poisoning, Dr. Machle maintains that this unquestionably does occur, although rarely. The cases, he reports, show lead absorption comparable to that found in occupational lead poisoning.

"With the present means for determining the magnitude of lead absorption," he says, "uncertainty need no longer exist. If significant amounts of lead are being absorbed from a projectile in the tissues, the fact may be established readily and the likelihood of intoxication estimated."

The symptoms of lead poisoning are severe colic, constipation, a bluish line on the gums, nerve injury, headache, dizziness, and general weakness. To make a proper diagnosis, however, the amount of lead in the body tissues and fluids should be determined.

First Impressions of Electroshock Treatment

LAUREN H. SMITH, M.D., JOSEPH HUGHES, M.D., and DONALD W. HASTINGS, M.D.
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THE problem of shock therapy has been the concern of clinical psychiatry now for some years. The alteration of the state or progress of a mental disease by means of this therapy is an accomplished fact. However, we do not understand the fundamental nature of this modern treatment, nor can we evaluate good and bad results as accurately or fully as our scientific experience demands. As our experience widens with the use of insulin shock, and with metrazol and other chemical shock, we are more aware of complications and dangers which we would like to eliminate. A step in this direction seems to have been taken by the use of electroshock.

In November, 1939, we learned about experiments abroad with this type of therapy. A laboratory application of the effect of this treatment was carried out on a series of cats. It was found that the cats not only responded readily with convulsions but they showed no memory of the experience. We drew this conclusion because of the fact that they remained friendly even after weeks of electrical stimulation. It was further found that large doses of electricity could be used without respiratory or other physiologic difficulty. Degrees of electrical stimulation many times beyond the small dose necessary to produce convulsions in the adult human were used without evident damage to the cats. Neuropathologic examination on the brains of these cats will be reported in later studies by Bernard J. Alpers, but early studies show no evidence of damage from the electrical stimulation which would contraindicate the use of the treatment for patients.

Clinical application in electroshock has been begun in Italy, Germany, and England. Publications on this subject have been made by Cerletti, Bini, Sogliano, and by English authors. The December, 1939, *Lancet* and *British Journal of Medicine* each contain short clinical articles about a small series of cases with favorable reports.

We first treated patients beginning in May, 1940. Being the first to start treatment work by this method in this country, and unable to get first-hand accounts from those abroad who worked out certain technical details, we were forced to plan and manufacture our own apparatus. We are very much indebted to Joseph Hughes, M.D., chief of the laboratory service of the Pennsylvania Hospital, who devised and constructed an exceedingly efficient, safe, and compact instrument for this work. Recently commercial companies are producing similar treatment units which seem to be quite satisfactory.

Technic of Treatment

Choice of Patients.—Those treated have usually been suffering from the affective psychoses (manic-depressive psychosis and involutional psychosis). Schizophrenic patients were avoided with a few exceptions because of the generally poor results obtained in this illness with metrazol. Insulin shock therapy is regarded as the treatment of choice for schizophrenic psychoses at the Pennsylvania Hospital. It is felt that electroshock convulsions do not offer any promise of better therapeutic results than those of metrazol in the schizophrenic psychoses. This opinion is not yet based on clinical experience, however.

Preliminary Clinical Studies.—Each patient is examined carefully both physically and neurologically. The following are considered to be absolute contraindications to convulsive therapy:

1. Advanced generalized arteriosclerosis.
2. Advanced heart disease, regardless of etiology. The history of coronary occlusion or angina pectoris precludes treatment.
3. Tuberculous lesions, active or healed.
4. Thrombophlebitis, acute or chronic.
5. Malignancy, active or "cured."
6. Bone disease (except osteo-arthritis to be mentioned later).
7. History of convulsive disorder or its equivalent (fugue, etc.).

Read before the Pennsylvania Psychiatric Society at the semi-annual meeting in Philadelphia, Pa., Oct. 2, 1940.

From the Department for Mental and Nervous Diseases of the Pennsylvania Hospital, Philadelphia, Pa. Aided by a grant from the John and Mary R. Markle Foundation.

Perhaps the most frequently encountered physical defect is a moderate hypertensive or arteriosclerotic heart disease in the involutional group. In such a case evaluation depends upon the judgment of the physician. If there is no decompensation (or history of it), and if the electrocardiogram is normal, treatment is usually given. In questionable cases a cardiologist who is acquainted with convulsive therapy is consulted.

Preliminary Laboratory Studies.—The usual routine laboratory tests are done on all patients. In addition to these, the prospective patient has an electrocardiogram and lateral roentgen rays of the spine.

The electrocardiogram rules out conduction abnormalities which might be overlooked clinically and is essential before the patient is chosen for therapy. In a very uncooperative patient the taking of the electrocardiogram may be impossible and clinical criteria alone must then be depended upon.

The lateral roentgen ray of the spine serves 2 purposes: (1) gives a control for later post-convulsive films to check on compression fracture; (2) helps in evaluating patients for treatment. An unsuspected osteo-arthritis may be discovered which would make the usual convulsion dangerous. In such instances the use of curare may be considered.

Routine lateral plates of the spine are taken after the first, fifth, tenth, fifteenth, etc., convulsion. They are also taken after any convulsion following which the patient complains of back pain. Roentgen rays are also taken of any bony region at which the patient complains of post-convulsive pain.

The electrocardiogram is not routinely repeated after treatments.

Preparation of Patient.—There is no specific preparation required except that breakfast be skipped on the morning of treatment. The use of sedatives is discouraged because they make it more difficult to produce a convulsion.

The patient had best be nude or in loose-fitting pajamas. It is possible to treat the patient in street clothes, although this is not advisable. If it is necessary, however, ties, collars, belts, and shoes must be removed. The electroshock patient is not often incontinent of urine and the male patient does not commonly ejaculate. No patient has as yet been incontinent of feces.

Production of the Convulsion.—The patient lies on a table covered by a hard mattress. A

pillow is placed under the thoracic segment of the spine. Assistants hold each arm flexed across the chest and exert downward pressure over the shoulders. Another assistant manually restrains the knees. Electrode paste is massaged into the frontal region of the scalp on both sides and the electrodes applied. The resistance in this circuit is then measured and is usually between 500 and 1200 ohms. If the resistance is over 1200 ohms, the electrodes are turned in a rotary motion to massage the electrode paste into the scalp. Treatment is not given until the resistance is brought below 1200 ohms.

Formerly it was customary to calibrate the convulsing current from this resistance by means of Ohm's law. Experience has shown, however, that this is a greater current than is needed, and it is now the practice to start at the arbitrary point of 400 milliamperes, 100 volts, delivered for 0.2 seconds. If this does not produce a seizure, the current is kept at the same point but the time increased to 0.4 seconds. This failing to produce a convulsion, the timer is set at 0.6 seconds. A pause of 2 or 3 minutes is allowed between these trials. If these 3 attempts "miss," no more treatment is given that day. On the next treatment day a larger current is used (400 Ma. at 120 V, for example) and the same times are used again. It will be noticed that the resistance through the frontal region falls considerably after the current has passed through.

It might be mentioned that the measurement of the resistance (4½ V battery in resistance circuit) often gives the patient a sensation of "prickling" or of "seeing lights." This is due to the "make-break" switch being thrown. This can be avoided by inserting a rheostat in the resistance circuit so that the current can be gradually introduced after the electrodes are placed on the scalp.

A simple mouth gag of rolled gauze (the size of a large cigar) is placed between the patient's teeth. If the patient is uncooperative, this gag can be inserted just before the convulsion when the patient opens his mouth.

When the resistance is below 1200 ohms, the mouth gag in place, and the assistants holding the joints previously mentioned, the treatment circuit is connected to the electrodes. The switch is then thrown and, as the treatment current flows, most patients give a quick generalized jerk. This is usually slight, but may be more marked. Three common types of reaction may then be noted:

1. "Missed" Convulsion.—The patient is im-

mediately conscious, although somewhat dazed. He can answer questions and shows no evidence of convulsive movements. After a pause of 2 or 3 minutes, the time of the current is increased as previously mentioned. The patient has no memory of the "missed" convulsion.

2. *Convulsive Equivalent*.—The patient does not convulse, but is completely unconscious for a period of several minutes. The eyes have a fixed stare. There may be tremors of the extremities. After the period of unconsciousness there is the typical confused or stuporous period of from 10 to 30 minutes. This type of reaction is considered to be the equivalent of a convulsion and no more treatment is given that day.

3. *Grand Mal Convulsion*.—This is the common type of reaction. After the initial jerk characteristic of the 3 types of reaction, the patient has a latent period of unconsciousness lasting from 1 to 30 seconds. Then follows in most cases the typical "epileptic cry," although it may be absent. Then comes the tonic phase of about 20 seconds, followed by the clonic phase of about 30 seconds. At the end of the clonic phase the patient is in a stupor, breathing noisily. No cases of a postconvulsive furore state have yet been observed. The stuporous patient is then rolled on his side supported by a pillow at his back to prevent the aspiration of saliva. Attention must be paid to the under-shoulder since dislocation can occur in the process of turning. The patient remains in a stupor for 5 to 10 minutes and then slowly rouses. He is confused for 30 to 60 minutes after the seizure. Defects in memory are common and last from several hours to several days.

The patient has no memory for this episode, although he can recall treatment details up until the time of administration of the convulsing current.

Treatments are given 3 times weekly in the average case (every other day).

Number of Treatments

The number of individual treatments varies considerably. In several instances the patient has apparently made a recovery after one convulsion, but this is unusual. An average would be about 10 or 15 treatments. Cases of manic-depressive psychosis, depressed phase, responded more rapidly than those in the manic phase. Cases of involutional psychosis, melancholic type, seem to respond more rapidly than those of the paranoid type. The only criterion followed is to continue treatment until remission or marked improvement takes place or until it is

felt that nothing is being accomplished. No case is stopped ordinarily until 25 treatments are given without improvement.

Complications

Fracture and Dislocation.—One instance of compression fracture of a thoracic vertebra and dislocation of the shoulder has been seen (same patient, same convulsion). There have as yet been no other fractures or dislocations. This is a fracture rate of about 3 per cent to date.

The previously described position of patient and method of manual restraint are recommended in this regard.

Fatalities.—There have been no deaths by this method of which we are aware. However, the critical evaluation of the patient from a physical standpoint is required.

Bites of Tongue and Lips.—These minor accidents can be avoided by the use of a simple mouth gag. The one used and found to be practical is readily made by rolling up a piece of gauze and tying the ends. As mentioned, this makes a gag the size of a large cigar.

Muscular Soreness.—This symptom is not infrequent after the first several treatments. It can usually be relieved by massage. It is an important symptom only insofar as a fracture might be overlooked in ascribing pain to muscle soreness. The rule followed is that in case of any doubt a roentgenogram of the part is taken.

Headache.—This is not a frequent symptom, but occurs. It usually disappears spontaneously within 6 to 8 hours and can be relieved by acetylsalicylic acid. Codeine was required in a few instances. No case has yet been seen in which headache was a severe or crippling symptom.

Memory Defect.—This symptom is common for an hour or two in most patients following the convulsion. The patient has a memory defect into which he has insight and complains of not being able to remember the date, the name of the physician, etc. This gradually clears within a period of an hour or two. In some few cases this symptom has been more persistent and has been present for several days. No cases have yet been observed in which this memory loss has not disappeared. It is mentioned chiefly because it causes some anxiety on the part of the physician in treating patients in the late involutional age group. Complete psychometric tests are planned as a part of the study on electroshock.

Reversal of Psychosis.—In treating cases of manic-depressive psychosis (depressed type)

and involuntional psychosis (melancholic type) it has been noticed that the patient may, after several convulsions, present a picture that is clinically a hypomania. In the manic-depressive case it seems as if the depression has been "condensed" and the opposite swing inaugurated. No case has yet been observed in which this hypomania has been prolonged.

In involuntional melancholia a fairly typical hypomania may occasionally be seen after electroshock therapy. The occurrence of this phenomenon caused the diagnosis to be in doubt, although the criteria for diagnosis were closely observed; namely, no previous attacks of mental illness, an agitated depression, psychosis occurring in involuntional period, and typical pre-psychotic personality.

That this hypomanic reaction can be observed in involuntional psychosis, melancholic type, subsequent to convulsive therapy would seem to raise the old question of the relationship of the manic-depressive psychoses to the involuntional psychoses.

Thirty-two patients can now be reported as having had complete treatment. There were 13 cases of involuntional melancholia, 6 manic depressive (depressed), 7 manic depressive (manic), 3 schizophrenias, and 3 unclassified psychoses. The table shows the results of treatment. As can be seen, the favorable results in this small group of cases are rather startling. It must be added, however, that 2 months is the longest period that has elapsed since completion of treatment, and some relapses may be expected.

In general, we are surprised at the effectiveness of the electroshock as compared with metrazol. Our series of cases is yet very small;

Diagnoses	No. of Cases Treated	No. of Cases Unimproved	No. of Cases Much Improved	No. of Cases Recovered
Involuntional melancholia ..	13	2	5	6
Manic depressive, depressed	6	1	0	5
Manic depressive, manic ..	7	0	0	7
Schizophrenia	3	3	0	0
Unclassified	3	2	0	1
Totals	32	8	5	19

therefore, we can give only our first impressions. Certain of these are as follows:

1. The treatment is simple and inexpensive to apply.
2. The patient experiences no discomfort, as the application of treatment is not painful in any way and there is memory loss for the treatment period.
3. The convulsive episode is less severe than that seen in metrazol.
4. Fractures and dislocations will not occur as frequently (judging from our experience with these few cases).
5. Patients improve rather abruptly on short courses of treatment.
6. No drugs need to be introduced parenterally.

Aside from the points already outlined, it may be generally stated that electroshock will produce any of the benefits or effects of treatment previously experienced with chemical shock. Furthermore, if our experience with the small series of patients is multiplied in the same way with a large series, electroshock will provide a valuable improvement in shock therapy.

REPORT SULFAPYRIDINE REDUCES DEATH RATES IN FORMS OF MENINGITIS

A marked reduction in the death rate from meningitis due to the pneumococcus and also the condition when caused by the Haemophilus influenzae through the use of sulfapyridine, a derivative of sulfanilamide, or its sodium salt or both, is reported by Josephine B. Neal, M.D., Emanuel Appelbaum, M.D., and Henry W. Jackson, M.D., New York, in *The Journal of the American Medical Association* for Dec. 14.

The death rate in pneumococcic meningitis was 100 per cent in the experience of the 3 New York physicians, while in the influenzal meningitis the rate was more than 95 per cent. In their report in *The Journal* the 3 physicians present a series of 30 cases of pneumococcic meningitis with 10 recoveries and 29 cases

of meningitis due to Haemophilus influenzae with 14 recoveries. A specific serum also was used in most cases. "An endeavor to find a satisfactory method of treating meningitis due to Haemophilus influenzae," the 3 authors declare, "is particularly important, since for the past several years there has been a sharp increase in the incidence of this disease."

As evidence of the truth of their statement, the same issue of *The Journal* carries a report by Ernest L. Noone, M.D., Drexel Hill, Pa., and Patrick J. Kennedy, M.D., Lansdowne, Pa., of 2 cases of influenzal meningitis in 5-year-old children. They were treated with serum and sulfapyridine and later with sulfathiazole, a more recent derivative of sulfanilamide, the 2 authors report. Recovery occurred in both cases. In concluding their report the Pennsylvania physicians say: "Both sulfapyridine and sulfathiazole are effective in the treatment of influenzal meningitis."

Vesical Diverticula Today

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EVERY surgeon has the same prayer in mind. It matters not whether he is dealing with malignancy, the result of inflammation, or weird congenital abnormalities. He seeks the greatest symptomatic relief; cure when possible.

Long-continued bladder neck obstruction with its resultant kidney damage and infection often sends to the urologic surgeon a patient having diverticulum of the bladder as a relatively poor surgical risk. There are technical difficulties and complications due to the infection that make the operation of diverticulectomy a hazardous procedure. Careful consideration of the patient's welfare demands a degree of resourcefulness on the part of the surgeon. In spite of preoperative preparation, many of these patients continue to be poor operative risks so that radical procedures dare not be considered. There is, however, hope in palliation. Thorough bladder neck resection, recognized as a relatively less dangerous venture, is now used more often in the satisfactory and symptomatic relief of these serious situations.

Etiology

Fact has it that long-continued, insidious, and apparently milder obstructions, not causing complete retention, but due to fibrosis of the bladder neck or median bar, are much more likely to account for diverticula. The large hypertrophied obstructing prostate is not often associated with a diverticulum. There are varying figures as to the bladder neck lesion. One is relatively safe in estimating that 95 per cent are the result of prostatism. The smaller remaining few occur due to congenital abnormalities or inflammatory processes in women and younger males. Urethral strictures in both men and women are causative factors.

Age and Sex

In reviewing large series of cases, the average age of patients with diverticula fits into the age group where bladder neck obstruction is prevalent. Males, age 55 to 60, are the most commonly affected. The male to female ratio conservatively is 20 to 1.

Types of Diverticula

Undoubtedly most diverticula are acquired, rarely congenital. Does this explain, however, why we do not see ureteral reflux if obstruction alone is the causative factor? Ureteral reflux is rare, except in those cases where the diverticulum causes marked periureteral inflammation and malfunction of the ureter. In cases of recurrent diverticula, after one diverticulectomy and nephrectomy, the ureteral stump does not constitute the recurrence. The new sac appears in another part of the bladder. This fact was called to our attention by R. O. Ward in his review of 53

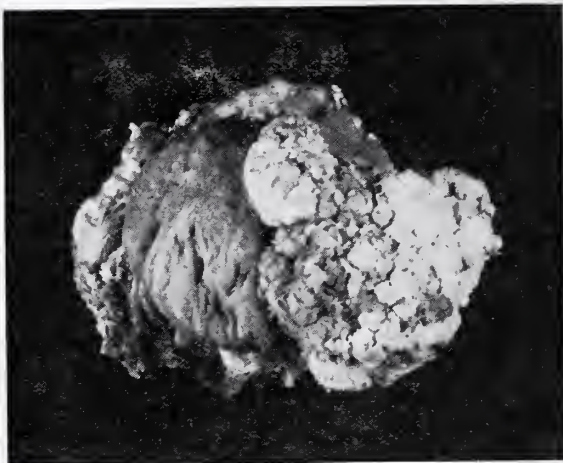


Fig. 1. Diverticulum with a carcinoma arising from its wall, diagnosed when the interior of sac was visualized with aid of a cystoscope.

cases. Is it not likely that there is a local inherent weakness of the tissues? This was borne out by my review of 30 cases in which I found that almost one-half the patients had hernias of some sort that had been present all their lives or had developed following some operation or injury. The hernias, in order of their frequency, were inguinal, ventral, umbilical, femoral, and diaphragmatic. This may be only a coincidental finding, but surely is evidence to help the acquired theory.

Multiple points of minor sacculation are commonly seen in the bladder with the larger recesses that are worthy to be called diverticula. The



Fig. 2. Cystogram showing a fairly large diverticulum that proved to be small and shrunken after prolonged catheter drainage (courtesy of W. H. Mackinney).

sacculi occur anywhere in the bladder wall, but the diverticulum is most often found in the region around either ureteral meatus, just behind or to the side of the trigone. Diverticula do occasionally have their openings in the fundus, posterior or lateral wall, but this is not the rule. Those opening into the dome are usually the result of a persistent urachus. The frequent finding of diverticula in relation to the ureteral meatus is thought by many to be good proof of their possible congenital origin.

The large solitary diverticulum in an otherwise normal bladder is an uncommon surgical abnormality. It is not unusual to see a large diverticulum associated with 2 or 3 smaller ones. As a rule, there is evidence of a generalized stress of back pressure on the bladder. It is rare, at the time of cystoscopy, to find a single recess that one can predict will grow to a diverticulum. The usual finding is that the structure is of sizable dimensions before it brings any clinical symptoms to the patient's attention. On the other hand, occasionally large diverticula are reported where no clinical symptoms were noted, the structures being found at necropsy or in the dissecting room. Such a case was described by Montagu Ashley.

It must be borne in mind that in these cases there has been no infection. These are most likely to be the congenital type. Hydronephrosis and diverticula are relatively symptomless en-

tities as long as they escape infection. When infection occurs, subjective symptoms begin and the patient seeks relief. All diverticula sooner or later become infected. The ideal time for the surgeon to resect them is before the infection occurs. Unfortunately, it is the odd one that is found during this period. However, it is our experience that the larger ones are relatively free of peridiverticular inflammation, making blunt dissection more simple than in the medium-sized structures where surrounding tissues are nearly always involved.

Symptoms

If there is one symptom or a train of symptoms that are common to patients with vesical diverticula, they are those of obstruction.

Dysuria is usually marked. Accompanying it there is difficulty in emptying the bladder up to the point of complete retention or an interruption of the act, so that after voiding a small quantity of urine there is an interval and this is followed by the passage of a much larger quantity.

Frequency is a most common symptom, but is due not so much to the diverticulum as to the accompanying cystitis or associated prostatism.

Hematuria is not as common a symptom as cloudy urine but, when present, is significant. Although not unknown as one of the symptoms of diverticula, it is quite common with tumor. Therefore, any patient having a diverticulum by cystoscopy and a history of hematuria should be suspected of malignancy within the diverticulum and have every means used to prove its presence or absence. The cystogram will often show an



Fig. 3. A rather large diverticulum of the bladder in a man, age 63, treated only by bladder neck resection.

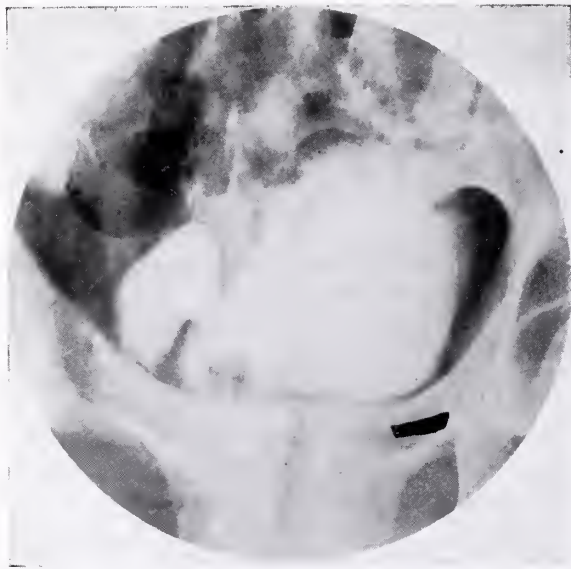


Fig. 4. Diverticulum on lateral wall of the bladder. Resection of bladder neck relieved symptoms.

irregular filling defect in the rounded outline of the diverticulum very similar to the radiographs seen in the case of tumors or the enlarged prostate which show unusual contours in the regular bladder shadow. Exploration of the interior of the diverticulum with the cystoscope is the surest method of diagnosis when the location of the orifice permits. Fig. 1 is an inverted diverticulum showing a large tumor on the one wall. Only a small part of this tumor was visible at the time of diverticuloscopy, but enough was seen to make the diagnosis.

Treatment

Radical.—Excision of the diverticulum was for many years the only method of attack. As experience grew, the operation of diverticulectomy was followed by a secondary prostatectomy. This makes us wonder how any satisfactory results were obtained before the close relation of the diverticulum and obstruction was recognized. The various operations described for excision resolve themselves into simplicity, where the sac is easily visualized. There are 2 methods that enable us to accomplish the best visualization. The first is termed the transvesical method. After opening the bladder, the orifice of the diverticulum is encircled by an incision. Dissection of the sac is carried out from above downward toward the fundus rather than attempting to free the fundus first by extravescical dissection. R. W. Barnes has described a second method in which the wall of the bladder above the orifice and the sac is incised in one continuous line. This exposes the lining of the diverticulum so that it can be stripped away or the mucosa cau-

terized. If the lining of the diverticulum alone is cauterized, its muscular coat becomes extravescical when the bladder wall and orifice of the diverticulum are sutured as though they were a single line of incision.

Palliative.—Patients having fairly large diverticula visualized by roentgen ray often prove to have small shrunken sacs after they have been on catheter drainage for a time. Fig. 2 shows the preoperative cystogram of a patient who demonstrated this fact very well. This patient was on the service of William H. Mackinney, who noted this finding and kindly loaned the plates for this demonstration. The man had a somewhat stormy time and was on prolonged catheter drainage due to his temperature reaction following insertion of the catheter. At the end of this period, when his bladder was opened, it was found that the sizable diverticulum seen in the roentgen-ray plates was a small shrunken structure. This fact and similar cases lead us to the belief that thorough relief of vesical neck obstruction will symptomatically care for many diverticula. I cannot help but think that the time factor played a large part in this case.

Time without obstruction is no doubt the reason why many of these patients go along quite satisfactorily after bladder neck resection alone is carried out. Undoubtedly, before any relief of obstruction, the bladder as it contracts on micturition forces urine out of the urethra and into the diverticulum simultaneously. Due to the resistance at the bladder neck, there is a tendency for the diverticulum to fill and remain filled during the act of urination. Under prolonged



Fig. 5. A large diverticulum that caused persistent residual urine and dysuria after bladder neck resection, necessitating diverticulectomy.



Fig. 6. Diverticulum equal in size to the bladder caused persistent dysuria and pyuria even after bladder neck obstruction removed and warranted diverticulectomy.

drainage, as demonstrated by Dr. Mackinney's case, or following adequate prostatic resection, the forceful effort of urination is eliminated. The urine flows freely from an unimpeded channel. The act of urination is one of relaxation and not effort. As time passes, the wall of the diverticulum, which contains muscle fibers, regains its elasticity and functions many times well enough to empty itself satisfactorily. This structure will not completely disappear, but the relief of back pressure will often make a small sac out of a structure termed a diverticulum previously.

Thompson, Kermott, and Cabot have recently reported 96 patients with diverticulum of the bladder treated by transurethral prostatic resection. Of this group, many of them having quite large diverticula by cystogram, comparatively few had symptoms or residual urine enough to warrant further attacks on the diverticulum after removal of the obstruction.

This method of attack accomplished as a first step tends to have an added advantage. In cases where we were previously using the suprapubic or perineal operation exclusively for bladder neck obstruction, it was necessary for diverticulectomy to precede the prostatectomy. The operation thus was a 2-stage one and required long hospitalization. We did not perform a prostatectomy first and then await the result because, technically, the difficulty of subsequent diverticulectomy was increased due to the reaction around the bladder wall. On the other hand, prostatic resection can be easily followed by diverticulectomy if need be without any change in the bladder wall. We are quite in agreement with Kutzmann,¹ who stated that "Diverticulum of the urinary bladder is most satisfactorily treated by the correction of the obstructing factors, only such diverticula being individually treated as may be of the retention type, or of large size." Figs. 3 and 4 show cystograms of 2 patients with diverticula treated by bladder neck resection. These patients are comfortable, happy with their result, and symptom-free. In aged patients considered as poor risks and treated by only one operation, that operation is



Fig. 7. Preoperative cystogram and postoperative specimen of large diverticulum containing stones. Complicating factors such as this warrant removal of the whole sac.

resection of the bladder neck, not resection of the diverticulum.

Thus the important factor is drainage, or how well does the diverticulum empty during the post-resection act of voiding. There is some stasis in all diverticula that have attained any considerable size. Large sacs with a small opening as a general rule empty poorly (Fig. 5) and are called retention diverticula, giving rise to the descriptive term "concealed residual" used by the English writers. The use of the contrast cystogram is perhaps not an accurate method to tell whether a diverticulum will empty satisfactorily when vesical neck obstruction is later relieved.

Our method at present for diagnosis of diverticula which overlie or are concealed by the general bladder outline is the retention of contrast media after the bladder is emptied by catheter or voiding. This study is made before any operation for relief of obstruction is done. The plates are taken when the diverticulum is still in the state of tension and before it has had a chance to recover its elasticity. We find that many of these clinically drain satisfactorily after complete removal of obstruction. It is a matter of watching and awaiting the outcome of the resection that settles the question as to whether diverticulectomy is necessary. Cystograms taken at this later date in a large number will show marked improvement and explain the symptomatic relief obtained.

At times the best-laid plans will not result in a thorough clinical cure and symptomatic relief as we had hoped. There are definite signs that tell us when any further operation is necessary. These signs are (1) persistent residual urine (Fig. 5), and (2) bladder infection with irritability (Fig. 6).

There are cases where we can decide whether radical operation is necessary when the preliminary study is made. This is the study that results in the finding of complicating features such as (1) attachment of the diverticulum to or interference with the emptying of a ureter producing hydronephrosis or hydro-ureter with or without ureteral reflux; (2) the presence of complicating factors such as stones in the diverticulum (Fig. 7); and (3) carcinoma within a diverticulum (Fig. 1).

The likelihood of these complicating features being present makes it a definite necessity to combine cystoscopy with roentgen ray in evaluating the complete bladder picture. For instance, at the time of operation for prostatectomy with a relaxed bladder wall, the opening of a diverticulum may be overlooked and the condition go

unrecognized until later. It is easy to believe that a diverticulum is unlikely to be missed if the bladder is opened widely, but this is not always so. I have had the opportunity to cystoscope a patient in whom 3 to 4 medium-sized stones were found in the bladder. Upon the cystogram smaller shadows were noted in a diverticulum, the orifice of which was easily seen at cystoscopy. Upon opening the bladder, the larger stones could be seen on the bladder floor, but I could not locate the opening to the diverticulum without very wide retraction and careful probing along the bladder wall. This difficulty was experienced even though I was very familiar with the location of the opening at the time of cystoscopy.

It is a good rule never to depend on only one method in the diagnosis and determination of the line of attack to follow when dealing with vesical diverticula. Every help possible must be used. Then, even when one operation has been done, the patients must be watched and carefully checked to see whether further interference is necessary.

Summary

1. The vast majority of diverticula are acquired rather than congenital due to bladder neck obstruction of the fibrosing type.
2. The most common symptom is dysuria resulting from obstruction and retention of urine in the diverticulum.
3. The treatment must first be directed toward relief of the obstruction.
4. Subsequent operations for excision of the diverticulum depend on the symptomatic relief obtained.
5. Symptomatic relief is dependent on the lessening of the amount of residual urine and disappearance of bladder infection.
6. Many diverticula today need not be treated by excision if thorough bladder neck resection is carried out.

REFERENCE

1. KUTZMANN, A. A.: Diverticulum of the Urinary Bladder; an Analysis of 100 Cases. *Surg., Gynec. & Obst.*, 56: 898-906, 1933.

ABSTRACT OF DISCUSSION

WILLIAM A. BARRETT (Pittsburgh): As Dr. Mulholland has stated, there may occasionally be found a large diverticulum without clinical symptoms, but these are not necessarily congenital. They simply are not retentive in type and chiefly for this reason have not become infected. As soon as infection occurs, symptoms begin. I want to show several slides.

Slides 1 and 2: This case bears out 2 points made by the essayist in regard to the marked debilitation of the patient; because of the need of doing preliminary cystostomy and prostatectomy, he was in the hospital for more than 4 months. But this was before I began to

do transurethral resections. Resection in this instance would undoubtedly have greatly reduced the period of hospitalization and decreased the operative procedures to 2 instead of 3. Note the better view of the diverticulum in the oblique exposure.

Slide 3: This slide shows large bilateral retentive diverticula that also had to be resected. The contrast of the retained sodium iodide in the diverticula to the air in the bladder is evidenced.

Slides 4 and 5: In this instance a history of more than 12 years gave no indication of the progress of the diverticula or the time when a calculus began to form. It illustrates a case of large multiple diverticula, one of which contained a calculus 4 cm. in diameter. The roentgenogram on the left was made after the previous one, whereas the one on the right was made first. I always insist on a plain plate before any part of the urinary tract is roentgen-rayed. The orifice of this diverticulum was less than 1 cm. in diameter and was located just back of the interureteric ridge. The other large diverticulum on the right had an orifice only slightly larger. The reason for calculus formation in the former and not in the latter was improper drainage.

Slide 6. This merely illustrates instances of multiple calculi in a large diverticulum.

Slide 7. The incidence of ureteral reflux is usually not seen in the presence of large diverticula because the increased intravesicular pressure spends itself in further dilating the weakened diverticular wall or by passing up the ureter to the pelvis. Relief of pressure at either point saves the other. Here there are cellulites all over the bladder which are potentially large diverticula, but because of inflammatory induration or inherent weakness

of the valve-like function, the ureter let go first and renal pain was experienced from the ureteral reflux.

Slide 8. This instance of multiple diverticula in a woman caused by urethral stricture was the cause of her 7 years of dysuria, frequency, and urgency. These are retentive and infected.

I wish to stress the advisability of doing cystograms on patients with obvious obstruction or prolonged history of urinary difficulties. Filling the bladder with sodium iodide and taking roentgen rays in both the anteroposterior and anterolateral positions will often surprise us. To release the sodium iodide and inject the same amount or a little less air will give a contrast that enables one to determine the degree of diverticular retention.

Resection of the frequent prostatic obstruction or vesical neck fibrosis has been a boon to many of these patients both financially and physically.

STIRLING W. MOORHEAD (Philadelphia): Sodium iodide is often used in too great concentration as a contrast medium for cystography; it should not be stronger than 2 or 3 per cent. Two days after pyelography, for which a 15 per cent solution of this salt was used, I once observed a red streak on the trigone caused by the solution running out of the ureter.

Another aspect of the subject I would like to comment on is the occurrence of malignancy in diverticula. I have seen comparatively few diverticula, but 2 of these developed carcinoma. On one of these patients I had done a cautery punch operation, making him comfortable for about 9 years. The pouch then became carcinomatous. Such cases are arguments for the removal of diverticula; palliation is not always the safer procedure.

PASSING OF MODERN "DRUG STORE" PREDICTED BY WISCONSIN WRITER

The modern "drug store" with its varied line of goods will in time stop selling prescriptions, and this function will be delegated to up-to-date pharmacists' shops, the legitimate successors of the old-fashioned apothecary shops, Emerson G. Wulling, Ph.D., La Crosse, Wis., contends in the December issue of *Hygeia, The Health Magazine*.

In spite of appearances to the contrary, he says, pharmacy is a growing rather than a vanishing profession. Many pharmacists have opened shops where they do nothing but fill prescriptions and carry on research. Although these shops are not generally known, they are flourishing and in time will supplant the "drug store" in the sale of drugs.

Explaining the reasons for the commercial drug store, Dr. Wulling says: "A few decades ago a pharmacist practiced a profession, personally, in public sight. He gave a professional service and only that. He was respected by the community as a man who knew something difficult to know, worth knowing. Then 2 things gradually came about which worked to the disadvantage of the profession.

"The first was an influx of too many pharmacists—150,000 persons doing the work that could be done by 50,000 means trouble. The result was poaching. First, more and more patent medicines; then beverages; then merchandise; then anything under the sun except plumbing.

"The second disintegrating force was the large scale manufacture of medicine. Some medicines, much needed, could be more economically made in bulk than by individual pharmacists. As a result, large manufacturing firms arose with 'lines' of pharmaceuticals. With more pharmacists and less pharmaceutical work, the profession had to turn to other lines. A drug store became a variety store.

"Pharmacy, however, is now in the process of division. The hundred thousand or so pharmacists too many, and the large scale manufacture of medicine, not really necessary, are in the process of being side-tracked. More hospitals are beginning to have their pharmaceutical laboratories where work of scientific and professional quality is assured.

"The universities are awakening; they have begun to consider quality rather than quantity. Pharmaceutical instruction has left the haphazard hands of preceptors and the incompetent hands of quiz-schools and is being centered in the scientific faculties of the universities. No longer can a pharmacist be trained in a few months. It now takes 4 years for a decent minimum course, and in time the requirements will be even higher. Many of the real pharmacists are doctors of pharmacy and doctors of medicine. During the last half century pharmaceutical research has kept pace with advancing science and has contributed much to its advance.

"Pharmacy, the real thing, is advancing at a thoroughly satisfactory pace and serving its important part in the health program."

Carcinoma of the Colon

Early Diagnosis with Double Contrast Enema

J. GERSHON-COHEN, M.D., and HARRY SHAY, M.D.
Philadelphia, Pa.

IF a patient presents himself too late for the diagnosis of early cancer of the colon, there is little to be gained by the use of the double contrast enema. To let the patient await the onset of symptoms arising from disturbed bowel function, or to lull him into believing that it is time enough to consult his physician when gross blood appears in the stool, is to miss the best opportunity for early diagnosis and successful treatment. One-half the patients on whom the average surgeon operates—and this was pointed out by Harvey B. Stone and Samuel McLanahan—are already in an incurable state.

The roentgen methods of diagnosing cancer of the colon now in use may be regarded as highly satisfactory, but this is principally because by the time barium enema roentgen-ray studies are made, the lesions are large and well advanced. Even so, every roentgenologist has some failures. The double contrast enema has helped us to overcome these failures; but more important, it makes possible the diagnosis of early lesions not suspected with the ordinary barium enema examination. This is particularly true of polyps whose malignant degeneration has been demonstrated by many pathologists. Neil W. Swinton and Shields Warren, after a painstaking analysis, found that at least 14 per cent of malignant tumors of the colon and rectum can be demonstrated histologically to have arisen in benign mucosal polyps.

Of the last 500 barium enema examinations done as part of routine gastro-intestinal studies or because of suspected disease of the colon, 7 revealed lesions only by the double contrast enema. It is significant that 6 of these had symptoms referable only to the rectum where disease was actually present. The more important lesions higher in the colon would have been overlooked if no enema or only the single

contrast enema had been employed. All 7 patients of this group were operated upon. Benign single polyps (2 pedunculated and 1 senile) were removed by simple colotomy in 3 patients and in the other 4 patients small malignant growths were removed by single-stage operations. All of these patients were alive and well 11 months to 9 years after operation. We reviewed this small but important group to discover a common denominator of diagnosis that might serve for future use. The only finding common to all was the presence of occult blood in the stools. It is true that it is clinically difficult to interpret the presence of occult blood in the stools, so that by itself it has relatively little value as an indication of carcinoma of the colon. Nevertheless, the *periodic* examination of the stool for *occult blood* is not difficult nor is it too much to require as a preliminary diagnostic step in making an early diagnosis of carcinoma of the colon. The mere presence of hemorrhoids, or other mucosal changes higher in the gastrointestinal tract which might explain the presence of occult blood, ought not to be a reason for the failure to examine the colon by so searching a method as the double contrast enema.

Occult bleeding seems to precede by comparatively long intervals the point at which subjective awareness of abnormal colonic function enters the picture. Because the diameter of the colonic lumen is larger and greater than elsewhere in the intestinal tract, a new growth must reach considerable proportions before encroaching sufficiently to cause obstructive phenomena; and if the neoplastic process is infiltrative instead of fungative in character, much infiltration must take place before enough constriction results to cause disturbed bowel function. Since this is less true of the flexures and rectosigmoid, cancerous growths in these areas are discovered earlier than elsewhere in the colon.

If the detection of occult blood were made the subject of *periodic search*, the employment of an

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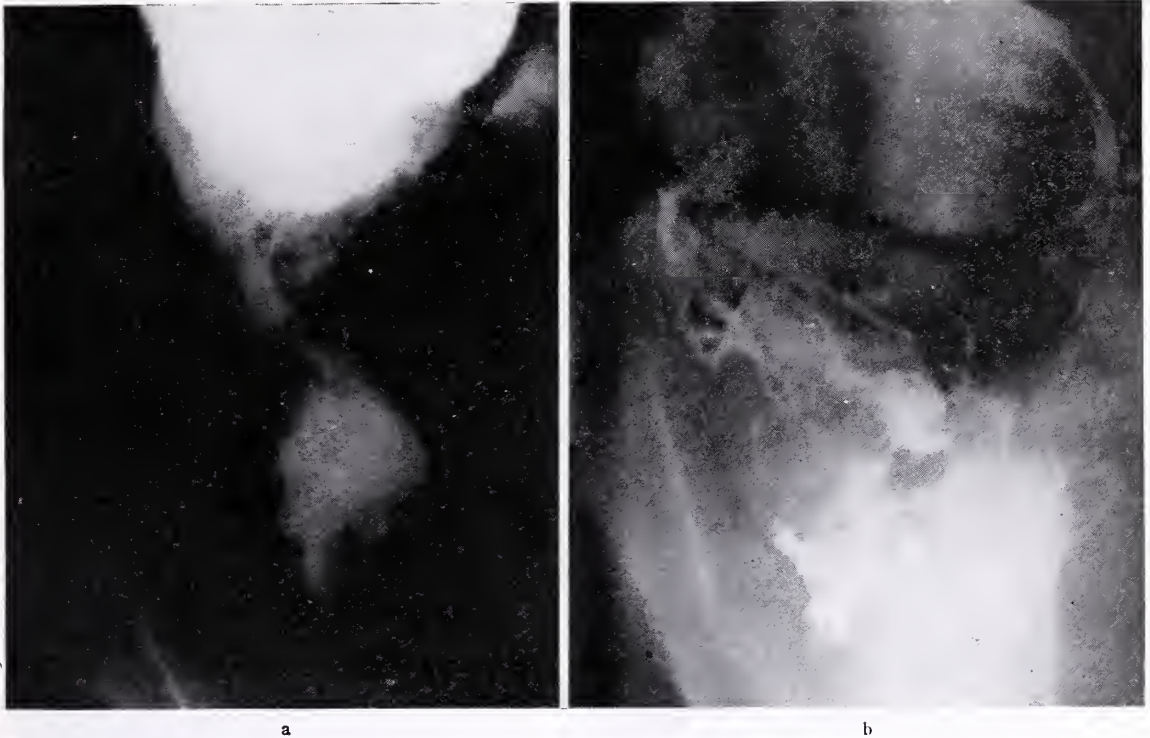


Fig. 1. (a) Spasm and increased activity of the cecum is visible, but the outline of the actual neoplasm is not demonstrated by the simple barium enema examination. (b) Spasm during the double contrast enema does not prevent visualization of cecal neoplasm in the air-filled colon. This tumor was removed by a single-stage operation and found to be an adenocarcinoma by histologic examination.

additional reliable diagnostic measure, such as the double contrast enema, could be used as an invaluable aid in the diagnosis and treatment of polyps and early cancer of the colon. This idea is just as practical and as logical as roentgen-ray

examination of the chest in suspects who have developed a positive Mantoux reaction. The progress of carcinoma of the gastro-intestinal tract is just as insidious as the development of tuberculosis, and the sooner we exploit more searching easily applied methods, the sooner will success crown our efforts of treatment.

The simple barium enema examination of the colon fails less than 10 per cent in establishing the presence of a neoplastic process once the patient has developed symptoms. These failures are exceedingly important and deserve careful special study.

Medullary cancers that grow into the lumen and produce filling defects are more readily discernible than the scirrhous infiltrating growths that produce constrictive deformities, often hard to differentiate from haustral indentures. This is particularly true of the angulated portions of the colon, the flexures, and the rectosigmoid. The overlapping of redundancies and reduplications is another common cause for missing small lesions. Carcinoma in the rectum is frequently not visualized by the roentgenologist and no barium enema examination should ever be done without direct palpation and inspection of the rectum and sigmoid. Conversely, to detect early lesions of the colon, no rectal examination should be done without a searching barium enema ex-



Fig. 2. Air, but little barium, could be made to enter the descending colon proximal to a constricting infiltrative neoplasm.



Fig. 3. (a) Left colon after filling with barium suspension obscures pedunculated polyp 1.5 cm. in diameter. (b) After air inflation, polyp is visible. This was removed after colotomy and found to be benign.



Fig. 4. (a) Single contrast filling of rectum—no defects visible. (b) Large medullary neoplasm revealed in double contrast examination of same area ("relief reproduction"). This growth proved to be an adenocarcinoma and the distal surfaces could be seen easily with the proctoscope.

amination of the entire colon. Many errors can be overcome by making roentgenograms through oblique planes, or by changing the patient from the recumbent to the erect position, or by making

double exposures on the same film to locate areas of rigidity through which there is no peristaltic activity. Many roentgenologists recommend examination of the evacuated colon to study the

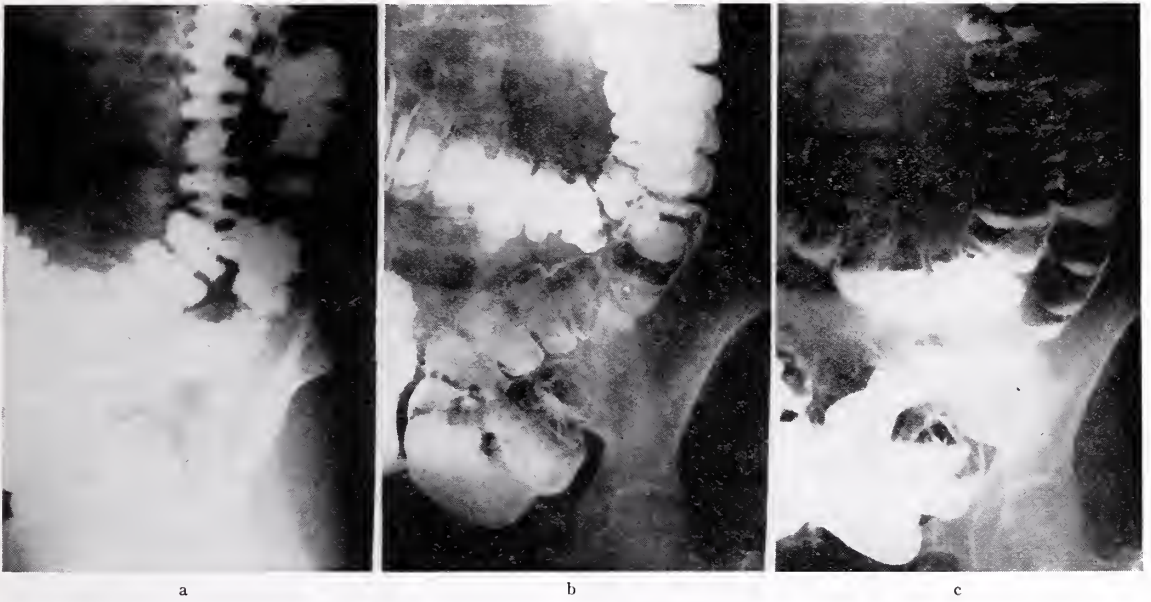


Fig. 5. (a) Barium enema—spasm and increased motor activity of left colon. (b) Same segments after air inflation with patient in, recumbent position. (c) Patient in erect position.

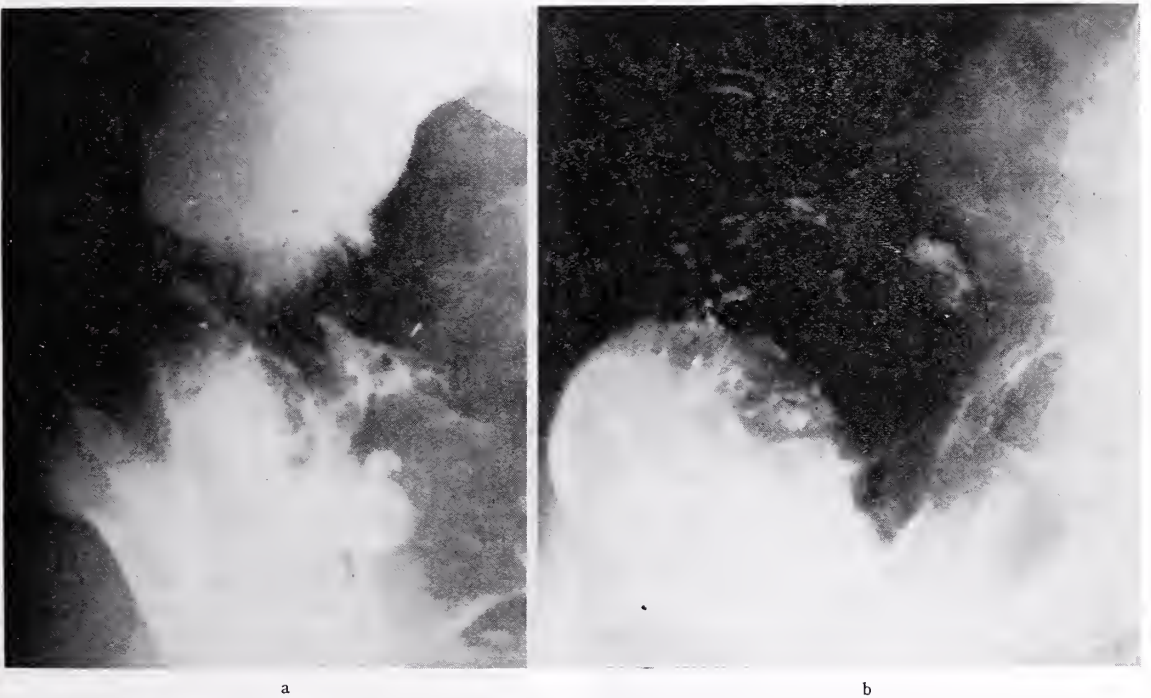


Fig. 6. (a) Marked intermittent spasm of cecum. The presence of a polyp or early malignant growth is often associated with these roentgen findings. (b) After air inflation, margins of cecum are continuous and flaky deposits of residual barium suggest a mucocatarrhal colitis. No extension is seen into the lumen of the colon by a mucosal neoplasm. Compare with Fig. 1.

mucosal patterns, a definite advance over the ordinary barium enema routine. The double contrast enema not only overcomes these difficulties but also makes possible the visualization of small intraluminal changes before they are disclosed by the single contrast barium enema.

After the rectum, the cecum is the most common site of cancer. Obstructive symptoms are

usually late in appearing. Occult blood in the stools is an early finding. As a result of this bleeding, an "unexplained" anemia may be the first sign to arouse suspicion of a cecal carcinoma. Most of the malignant growths in the cecum are medullary in type so that, while anemia may have been long present, by the time the patient presents himself for diagnosis, a

palpable mass may be found in the right lower quadrant. Because of these factors, the opportunity of utilizing the double contrast enema to its full advantage has been rare; nevertheless, the supportive evidence afforded by the double contrast enema in further revealing the boundaries of a neoplasm has proved a welcome confirmation (Fig. 1).

In the neighborhood of the flexures, scirrhous types of carcinoma predominate and the first symptoms are often related to disturbed motility. Since these symptoms do not develop until there is considerable stenosis or constriction, the ordinary barium enema usually serves adequately for demonstrating the character and site of the lesion. The double contrast enema serves in these cases simply as a check examination. Frequently, where the head of the retrojected barium column fails to get by the level of the narrowing, the air of the double contrast enema does gain access to the proximal loop. The lesion is then brought into relief by air on the proximal side and barium on the distal side (Fig. 2). If the growths are smaller and extend into the lumen without obstruction, they are nicely illuminated by the thin surface coating of residual barium in the air column of the double contrast enema (Fig. 3). This is true not only of the small primary neoplasms but also of isolated polyps or the secondary granulomas of late ulcerative colitis. The area of the rectosigmoid, much like the flexures, is often involved by an infiltrative stenosing type of malignant lesion which similarly limits the usefulness of the double contrast enema.

The rectum has been the least satisfactorily explored area by the barium enema; but, fortunately, this portion of the colon is accessible to direct inspection. The double contrast enema has yielded an appreciable reduction in the number of nonvisualized lesions and has been useful in differential diagnosis (Fig. 4).

Technic

The double contrast enema is a 3-stage examination and technical variations suggested by many roentgenologists have added little to A. W. Fischer's original technic. The preliminary cleansing enema may be eliminated, but this is not always possible or desirable. This is an important factor since the use of strong laxatives is often dangerous; and cleansing enemas frequently prove unsatisfactory because, no matter how intensive their use, adherent fecal masses may remain to confuse the roentgen interpretation. Since the colon is studied thrice with this

routine, the barium enema can serve a dual rôle—a cleansing as well as a diagnostic agent.

The first stage of the double contrast enema examination is carried out with a warm barium-water suspension. After obtaining the usual fluoroscopic and roentgenographic observations and records, the water-barium suspension is either siphoned back from the colon, or better, evacuated naturally by the patient. This is followed by fluoroscopic and, if advisable, roentgenographic examinations of the evacuated colon. Finally, air is inflated into the colon under fluoroscopic control. This is done slowly enough to prevent unduly rapid distention and the amount of air used is only enough to fill the colon. Retropulsion of the air into the ileum should be avoided, if possible, just as with the barium suspension of the single contrast enema (Fig. 5).

Like all technical procedures, familiarity and skill must be attained before the utmost in diagnostic reliability can be achieved. Since early pathologic processes often are not far removed from the appearance of normal variations, thorough familiarity with the appearance of the normal variations must be gained. This can be done by making the double contrast enema a routine procedure. The majority of examinations will turn out to have been done in the absence of disease. A "negative" diagnosis is often the most difficult to make and the assurance furnished by the double contrast enema in this large group of cases is soon appreciated (Fig. 6).

Summary

1. The double contrast enema reveals *early* carcinoma of the colon before subjective symptoms have developed.
2. The earliest stages of carcinoma were found in the absence of gastro-intestinal symptoms. The only common finding preceding the symptoms in a small group of cases was occult blood in the stools.
3. Periodic examination of the stools for occult blood to be followed by the double contrast enema is, therefore, recommended for the diagnosis of early carcinoma of the colon.
4. The double contrast enema has proved valuable as a check examination of the single contrast enema, which is especially serviceable in the large group of cases where surety of the absence of disease is to be established. For this reason, the routine use of the double contrast enema is recommended.

Vaccine Treatment of Facial Paralysis

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THE ophthalmologist and otolaryngologist are at times consulted in cases of nontraumatic facial paralysis, but the ophthalmologist possibly more frequently, because the patient cannot close his eyelids on the affected side, owing to a paralysis of the palpebral part of the orbicularis oculi muscle. If the patient attempts to shut his eyes, the lids of the affected side remain open, and the eyeball of that side moves upward and slightly outward (Bell's phenomenon); this movement shows that a physiologic relationship exists between the orbicularis oculi and the muscles which rotate the eyeball upwards.

According to Bing and Haymaker, there are fibers arising in the oculomotor nucleus which pass through the medial longitudinal bundle to join the seventh nerve in its intrapontine course, and pass along this nerve to supply the orbicularis oculi, corrugator supercilii, and frontalis muscles. Due to the loss of winking, the flow of the conjunctival secretion through the lacrimal duct is impeded and tears collect (epiphora). Ectropion may occur in long-standing cases. The fine vibration of the normal lids which may be detected by the examiner's finger as it gently raises the lid against resistance is lost (positive Bergara-Wartenberg sign). There is diminution of the glabellar reflex (bilateral contraction of orbicularis oculi when a blow is struck in the region of the glabella). Also in the paralyzed half of the face all emotional, voluntary, and associated movements are lost; the face is expressionless, immobile, masklike; the nasolabial fold is obliterated and the corner of the mouth sags; the mouth is drawn over to the normal side; the cheek puffs out with respiration and food tends to collect in the groove between the teeth and cheek because of paralysis of the buccinator; there is increased acuity of the sense of hearing due to the paralyzed stapedius muscle; and there is loss of taste in the anterior two-thirds of the tongue if neuritis is in the upper part of the facial canal.

Bing and Haymaker state that the most com-

mon cause of peripheral facial palsy is an acute inflammation involving the nerve within the lowermost part of the facial canal. This condition is known as Bell's palsy. Whether the inflammation originates in the nerve itself, in the nerve sheaths, or in the periosteum of the canal is not known. Young adults, particularly males, are most prone to develop Bell's palsy, although the author has seen more cases in young adult females. Frequently, the onset is acute with pain within the ear, over the mastoid, and over the angle of the jaw. Ducloux is of the opinion that 80 per cent of patients with Bell's palsy recover completely. A history is often obtained of exposure of the affected side of the face to a draft, overexposure to cold (as observed in a sailor who fell asleep with the affected side of his face against a trolley car window in the winter while returning to the Navy Yard), acute pharyngitis, or acute tonsillitis. Some neurologists say that as high as 70 per cent give a definite history of exposure to cold.

Because the etiology of Bell's palsy is similar to those conditions in which the so-called "cold vaccines" have been found useful, and because it may be associated with these affections, it was decided to administer catarrhalis influenza vaccine—M. catarrhalis, 200 millions per c.c.; B. influenzae, 200 millions per c.c.; B. Friedländer, 200 millions per c.c.; Streptococcus (hemolyticus and viridans), 200 millions per c.c.; Staphylococcus (albus and aureus), 400 millions per c.c.; and Pneumococcus I, II, and III, 200 millions per c.c.

Five patients were injected in whom the palsy had existed 1, 1, 2, 6, and 10 days respectively, with recovery in 15, 18, 17, 21, and 7 days. Three patients were injected in whom the palsy had existed for 3, 10, and 21 days respectively, without any especial benefit, i. e., the recovery was prolonged as in the usual case of Bell's palsy.

Case Reports

CASE 1.—On Mar. 18, 1929, M. P., a fairly well-nourished, white male, age 40, complained of the left side of his face being affected since the previous day

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after working near an open window. He had left Bell's palsy. He was given catarrhalis influenza vaccine (2 minims). On Mar. 22 the paralysis was disappearing and he was given 5 minims of vaccine. By Mar. 28 the paralysis was almost gone and he was given 8 minims of vaccine. On Apr. 2 he was given 12 minims. The left facial paralysis has entirely disappeared.

CASE 2.—May 11, 1931. M. C. had been worried and underweight for some time, and on Apr. 20, 1931, the left side of the face became affected. The left side of the face presented typical Bell's palsy. Catarrhalis influenza vaccine (2 minims) was given. Further injections of vaccine did not improve the paralysis, and the condition continued until August, 1931, notwithstanding many electric treatments. The patient stated that the paralysis disappeared entirely in September, 1931. On Oct. 22, 1931, the patient came to my office and the paralysis was entirely gone.

CASE 3.—On Jan. 28, 1933, F. C., a white, fairly well-nourished male, age 31, came to my office because of paralysis of the left side of his face. He stated that on Jan. 26, 1933, he noticed pain beneath the left ear, and on Jan. 27 the left side of his face was affected. He was given 2 minims of catarrhalis influenza vaccine. On Jan. 30 he was given 4 minims, and on Feb. 3 he received 7 minims. By Feb. 7 the left facial paralysis had almost cleared and 10 minims were given. On Feb. 15, 1933, the left facial paralysis had disappeared and 12 minims of vaccine were given.

CASE 4.—On Oct. 24, 1934, Mrs. R. P., a well-nourished, white female, complained of paralysis of the right side of her face for 10 days. She believed that her face was affected while sleeping very close to an open window, which created a draft. Two minims of catarrhalis influenza vaccine were given; also, 6 minims on Oct. 26, 9 minims on Oct. 30, 12 minims on Nov. 5, and 12 minims on Dec. 6, 1934. The facial paralysis was not benefited by the injections. On Sept. 26, 1938, recovery from the right facial paralysis was not complete. The patient could not pull a wrinkle on right side of the forehead or pull up right side of the mouth. When lipstick was applied and the lips stretched, there was pain beneath the right ear.

CASE 5.—Mrs. J. B., a well-nourished, white female, came to my office Aug. 30, 1935, because the left half of her face was affected (Bell's palsy) for 6 days. She stated that her tonsils had been removed 15 years before, and a mastoidectomy of the right ear was done 5 years previously. At this time both ears were dry. Catarrhalis influenza vaccine (2 minims) was given, and on Sept. 5 she received 5 minims. By Sept. 13 the left facial paralysis had almost cleared and 8 minims of vaccine were given. On Sept. 20, 1935, the left facial paralysis had disappeared and she was given 12 minims of vaccine.

CASE 6.—May 17, 1937. Mrs. A. G. had a severe left tonsillitis for one week, beginning Apr. 26, 1937, and left facial paralysis, which started May 7, 1937. The tonsils were infected, and the left was larger than the right. She was given catarrhalis influenza vaccine (3 minims), and on May 19 she received 6 minims. The facial paralysis was disappearing. The patient did not return for any further injections because the facial paralysis improved quickly and had entirely disappeared by May 24, 1937.

CASE 7.—Feb. 26, 1939. Mrs. L. McK., a well-nourished female, had been ill for 3 weeks with gripe,

headache, and pain in the left ear and on the left side of the face. She had left Bell's paralysis the preceding 2 days. There were swelling, pain, and tenderness in the region of the left parotid gland. The left external auditory meatus was so swollen that the tympanic membrane could not be seen, but apparently it was not tender when touched with the applicator. She had infected tonsils. She stated that the left side of her face had been paralyzed 24 years before, and the condition was present for about 2 years. Two minims of catarrhalis influenza vaccine were given. On Feb. 28, 1939, there was marked reaction to the vaccine; 3 minims were injected. The canal of the left ear was still swollen. On Mar. 2 she was given 4 minims of vaccine. By Mar. 8 the facial paralysis had almost cleared. The left external auditory meatus was still swollen, but not painful. Five minims of vaccine were given. On Mar. 15 the facial paralysis had disappeared and the swelling of the left external auditory canal had subsided. Débris was removed from the canal; the wall and tympanic membrane were red; 7 minims of vaccine were given. She also received 10 minims on Mar. 22, 12 minims on Mar. 29, and 12 minims on Apr. 5, 1939.

CASE 8.—On June 27, 1939, Miss M. E. C., a well-nourished female, age 49, was seen with left facial paralysis. She stated that for 3 weeks previously she had felt very exhausted and had occasional attacks of staggering and shooting pain in the left ear. Four days previously she had marked swelling and pain in the region of the left parotid gland, and 2 days previously the left side of her face became paralyzed. Bell's palsy was present with swelling in the region of the parotid gland and anterior half of the left external auditory canal. The left tympanic membrane was red, but not swollen. A cone of light was present. The tympanic membrane of the right ear was slightly red. Catarrhalis influenza vaccine (2 minims) was given. On June 29 she received 4 minims; on July 1, 7 minims; 10 minims on July 3; 12 minims on July 6; and 15 minims on July 11, 1939. The paralysis was still present, but slightly improved. The swelling in the region of the left parotid gland and left external auditory canal has subsided. The paralysis persisted for 6 months.

Conclusions

It is not known whether the catarrhalis influenza vaccine acted in a specific manner, or as a foreign protein.

The period of recovery was shortened and the unsightly appearance of the face quickly removed in successful cases. Case 7 was 2 years in recovering from the first attack, while she recovered from the second attack in 17 days with vaccine.

Cases making a quick recovery were seen early; the etiology was exposure to cold or those conditions resulting from exposure.

Of the unsuccessful cases, Case 4 was not seen until 10 days after the development of paralysis, and Cases 2 and 8 occurred in the warm weather and were due to exhaustion rather than exposure to cold.

ABSTRACT OF DISCUSSION

FRANK C. PARKER (Norristown): Bell's palsy is defined by Davis and Cleveland as those "cases in which

the facial weakness occurs rather abruptly unassociated with recognizable ear disease or direct trauma." It is especially of importance to the ophthalmologist due to the involvement of the orbicularis with the resulting symptoms of lacrimation and irritation of the exposed eyeball, to say nothing of the facial disfigurement.

Authorities agree that the nerve swells in the bony canal and as a consequence the circulation is shut off, producing a necrosis of a portion of the nerve. As Dr. Connole has already stated, Duel in the *British Medical Journal* draws attention to the fact that from 80 to 85 per cent recover.

Bourbon, in the *Archives of Otolaryngology*, says: "Housed as it is in a long, bony canal and with nerves and blood vessels, with the various structures filling the canal and with its sheath intimately attached to the walls of the canal, the inelasticity of its housing makes the nerve extremely susceptible to slight changes. Whether the change is vascular, an inflammatory exudate within or without the nerve sheath, or a narrowing of the lumen of the canal by periostitis, the slightest change, whether it is an enlargement of the contents of the canal or a narrowing of the lumen, thus becomes a definite compressive factor producing a functional disturbance. Whatever the primary cause, unless the nerve is severed, the paralysis is caused more from resulting pressure, whether it is from inflammatory exudates, hemorrhage, or tumor, than it is from the neuritis."

Bunnell, in the *Archives of Otolaryngology*, remarks:

"In Bell's palsy in response to the trauma from cold or from infection, the nerve in its unyielding bony canal so swells that, as in Volkmann's ischemia, its own circulation is squeezed out and therefore, from resulting ischemia, necrosis over a length of the nerve results."

Throttling of the nerve seems to be a very well-accepted causative factor.

Now as to the cure, Hudson states: "If there is a good reaction to both currents (faradic and interrupted galvanic), which means no reaction of degeneration, the paralysis will recover within 6 to 8 weeks; if the reaction to faradic current is questionable and the reaction to galvanic current is good, the recovery will take 2 to 3 months; and when there is complete reaction of degeneration, the patient will not recover within 3 months and it may take a year."

It will be noted here that the minimum time of recovery is given as 6 to 8 weeks, which makes Dr. Connole's treatment with vaccines seem rather efficient. Dr. Connole gives 1 to 3 weeks as the maximum time of recovery in 5 of his cases. Three were more prolonged.

In a rather hasty search of the literature, by no means exhaustive, only one writer, Rebattu, mentions protein injections. As Dr. Connole states, he is not quite sure whether or not the benefit of the injections was due to the vaccine or to the foreign protein therein contained. However, whichever it may have been, it is my opinion that Dr. Connole is to be congratulated upon his initiative and the results he has obtained by the use of vaccines.

DEFINITION OF CHARITABLE HOSPITAL

In a Michigan tax proceeding the Michigan Supreme Court, affirming a decree finding that the real property of a hospital operated by the defendant hospital association was exempt from taxation, said, *Gundry vs. R. B. Smith Memorial Hospital Association*, 291 N. W. 213, that cases defining a charitable institution for the purpose of tort law are not conclusive in a tax exemption case, as tax exemptions are to be strictly construed. As to these, the Michigan rule is: Such a corporation is sufficiently charitable to entitle it to the privileges of the act when the charges collected for services are not more than are needed for its successful maintenance.—*Medical Record*, Nov. 6, 1940.

mit general military service, *The Journal* says. Likewise men are disqualified if they have secondary anemia, purpura, sickle cell anemia, or malaria.

These defects, the circular explains, "will be regarded as causes for rejection by Army medical examiners until there has been recovery without disqualifying sequelae. Medical examiners will reject all men who by reason of physical defects are considered unfit for early participation in training activities."

"This is in accord with the expressed statement that the purpose of the Selective Service is to secure men physically fit for military training at the time of examination and not primarily to rehabilitate those who are found to be unfit," *The Journal* observes. "No doubt, however, every encouragement will be given to those who are unfit to seek recovery from the conditions for which they are rejected so as to be available subsequently."

MODIFICATION OF PHYSICAL STANDARDS FOR SELECTIVE SERVICE

A circular recently issued by the chief of staff of the U. S. Army on the modification of physical standards under Selective Service reveals that men will no longer be considered suitable for military service if they have malaria, hookworm, nutritional diseases, certain blood diseases, or remediable incapacity due to recent acute illness or injury or to employment or environment in civil life, *The Journal of the American Medical Association* for Nov. 16 reports.

Beriberi, scurvy, and other nutritional deficiencies, if remediable by correction of diet and not severe, will no longer be considered as conditions which would per-

AGES OF MOTHERHOOD

"Approximately 80 per cent of women give birth to their first babies between the ages of 15 and 35," *Hygeia, The Health Magazine* states. "Over half of these first babies are born to mothers aged 20 to 25. Only slightly over 2 per cent of the first-born babies have mothers past age 35, and about a third of 1 per cent have mothers over age 40. The risk to mothers is greatest with the first child and with the last of many children."

Pulmonary Signs and Symptoms in Acute Upper Respiratory Infections

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THERE is little in current literature about the frequent involvement of the bronchial tree soon after the onset of acute upper respiratory infection; and it is common indeed, in practice, to misinterpret pulmonary conditions not shown on the roentgen ray.

Clinically, we often observe pulmonary physical signs much changed from normal at a time when roentgen-ray shadows are not demonstrable. Recent studies and experiments suggest probable pathways of such extension of infection from the upper to lower tract, the rapidity with which the sequence may occur, and the therapeutic means to arrest or abate their consequence.

This paper is presented in the hope that a correlation of recent researches will contribute to a clearer idea of the functional changes underlying sometimes puzzling physical signs, and make for more accurate and earlier diagnoses.

Physical Signs

From the clinical point of view, physicians of 40 years ago, relying entirely on physical examination, have understood the condition well. Gee¹ has given a lucid description of pulmonary signs. He has written:

"The percussion note is often impaired for a few days, even over the whole lung; more commonly over a part only, especially the apices, the lower lobes, and the middle lobe of the right lung, associated collapse being the usual cause. On the other hand, in both children and adults, patches of unnaturally clear resonance may be met with, probably due to local relaxation of lung tissue.

"Weakening of the respiratory sound is general or local; that is to say, the whole of both lungs or only a part of them is affected. Local weak breathing is by far the commoner condition, is due to the presence of mucus in the tubes, may amount to complete suppression of

sound, is usually movable in seat, and of short duration at any spot. General weak breathing is due to swelling of the mucous membrane, or to weakened respiratory movement."

All of us frequently see children become prostrated with a coryza, slight or no cough, and perhaps, nausea or vomiting. Some complain of abdominal pain about the umbilicus or in the right lower quadrant. They frequently have a mild, sometimes moderate, fever. The pharynx may be found mildly inflamed or practically normal except for a glazed appearance; or slight mucus may be seen, particularly when the soft palate is elevated. Tenderness is often absent. On the other hand, some have intense tonsillitis.

Physical examination of the chest may be practically negative or show considerable change from the normal. If râles are present, the condition is diagnosed bronchitis. In the absence of râles, provided there are considerable changes to percussion and auscultation, explanation of pulmonary pathology is not immediately clear. A negative roentgenogram does not assist clinical interpretation.

Whatever end these pulmonary complications of acute upper respiratory infection may reach, we have sufficient evidence to support the view that inflammation of a large portion of the bronchial tree may be present early and that subsequent change depends on biochemical and mechanical factors.

Experimental Evidence

Galbraith and Steinberg, in a series of experiments on 30 dogs, have induced pneumonia artificially by plugging a bronchus. A series of roentgen rays taken at frequent intervals has shown no roentgenographic changes until 24 hours elapsed. However, on killing the dogs, microscopic changes have been seen at the end of a half hour; with gross evidence of early, patchy atelectasis at 2 hours; emphysematous and atelectatic patches at 7 to 14 hours; and complete and diffuse atelectasis at 20 hours. At

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24 hours, when roentgen-ray shadows have appeared, the gross diagnosis of the lung condition has been diffuse atelectasis and early edema; the microscopic diagnosis—atelectasis, early diffuse pneumonitis, and edema.

Graham and Singer, in a large series of cases with operative bronchial fistulae, have noted that within 24 hours of the onset of an acute sinusitis the mucous membrane of the exposed bronchus became inflamed and its secretion, formerly slight, increased greatly, becoming mucopurulent within a few days.

The transmission of infection between the nasopharynx and the bronchial tree is determined by several factors. The most widely studied of these is aspiration of secretions. Another is lymphatic transmission. The early proof of Mullin and Ryder has been recently amplified by Larson and Fenton into a combined vascular lymphatic route.

Also, ciliary action may be disturbed due to loss of fluid, excessive moisture, lowered temperature, or dryness. Jackson has called the cough reflex the watchdog of the lungs. Although unusually active in childhood, Applebaum has found it less responsive in the toxic states, thus diminishing the respiratory defense mechanism. Pain often acts to inhibit cough, and narcotics depress the reflex.

As the sympathetic and parasympathetic both innervate the respiratory system, their lack of balance causes abnormal functioning and leads to more ready infections of the bronchi through gravity. Possibly similar disturbances occur when the upper respiratory mucosa is inflamed.

Macklin has shown the lung to be essentially a muscular organ, even down to the alveoli. Thus constriction of the air passages occurs as part of the generalized hypotonus so common in acutely ill children. Severe chilling of the skin may reflexly constrict the bronchi and possibly induce pneumonia.

Sluder has proven that asthma may be a nasal reflex, relieved by removal of hyperplastic nasal tissue. Likewise, in children with acute upper respiratory infection, removal of nasopharyngeal mucus may change the character of the chest sounds.

Because of great variation in arrangement of the lobes and lobules in lungs, Davis states that structural abnormalities predispose to pulmonary disease, including atelectasis.

The serious influence of depressed muscle tone is illustrated by the fact that postoperative atelectasis occurs as frequently after spinal anesthesia as after general anesthesia.

Galbraith and Steinberg's experiments show

that patchy atelectasis follows pulmonary stasis, and rapidity of alveolar collapse is directly proportionate to the interference with the respiratory movement.

As Henderson, Haggard, Coryllos and Birnbaum, and others have shown, if a plug of secretion obstructs a bronchus, the distal air is gradually absorbed into the blood and that portion of the lung collapses. Patchy atelectasis occurs when the bronchioles are affected.

Hypoventilation appears more likely to occur in those children who have abdominal pain incident to upper respiratory infection. Particularly is this so if there is vomiting. With hypoventilation there is absolute diminution and relative disproportion of the amounts of oxygen and carbon dioxide contained in the pulmonary air passages. With lessened oxygen in the blood, the respiratory center is not so sensitive and it requires more CO₂ to stimulate it at a time when the proportion of that gas, likewise, has been decreased.

As the carbon dioxide content of the plasma is 10 volumes per cent less in children than in adults, it is more quickly lowered to the level that does not stimulate the respiratory center.

That there is an intimate relationship between dehydration, deficient sugar oxidation, acidosis (particularly of the uncompensated alkali deficit type of Van Slyke), hypoventilation, depressed circulation and respiration, lessened arterial carbon dioxide, and hypotonus is demonstrated by Coryllos and Birnbaum, and Henderson.

The interplay of these many factors is too intricate for analysis in such a short paper, but there is abundant evidence of their action during acute infection of the respiratory tract.

Summary

A review of recent investigations reveals:

1. The almost immediate spread of infection from upper to lower portions of the respiratory tract.
2. The probability of bronchial involvement secondary to sinus infection before any roentgen-ray verification is possible.
3. The usefulness, as a physiologic basis for treatment, in thinking of the lung as largely muscle; and of remembering that tonus is essential for breathing, circulation, and metabolism, that the reflexes must be supported for defense purposes, and that the body fluids and chemistry must be sustained.
4. The possibility of preventing pneumonitis by inhalation of carbon dioxide or oxygen.

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The Present Status of Cyclopropane

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THE discussion of a particular anesthetic agent is undertaken with some hesitation on my part. I agree with Haggard¹ in the following quotation, "It is not the anesthetic that should be held up for public interest, but the administration of the anesthetic." It seems likely that this statement is true for the profession as well as for the public. Since the specialty of anesthesiology is not completely developed at this time, surgeons and their medical colleagues still have to bear this responsibility in many hospitals. Those who have the services of a competent medical anesthetist should look to him for the solution of their anesthetic problems. He is familiar with their needs and knows his ability to use the various methods and drugs better than anyone else.

The idea that the competence of the administrator is of prime importance also coincides with the opinion that to date there is no anesthetic or method which is ideal for all surgeons, anesthetists, patients, or operations. Satisfactory results are obtained with different drugs and methods throughout the country. The choice of the anesthetic and method is usually dependent upon the past experience of the surgical team. It is not my intention or desire to change present practices, but rather to offer information that may explain some of the difficulties that have been or may be encountered. It should be remembered that complete satisfaction with existing conditions might result in a failure to improve present methods and lack of advancement of knowledge in this specialty.

Although cyclopropane was found to be an anesthetic in 1929, it was not used to any extent clinically until 1933. An effort was made to evaluate its safety and its characteristics before indiscriminate use might cast shadows on the future employment of the drug. Considerable information, both clinical and experimental in nature, is available concerning this anesthetic. The more important clinical aspects will be considered. Instead of using specific types of cases,

fundamentals in physiology and pharmacology will be discussed in order to determine whether or not this drug should be used.

Cyclopropane is a gas with a slightly pungent odor that produces anesthesia with a minimum of discomfort as compared with other inhalation anesthetics. It is not irritating to the mucous membranes, diffuses rapidly into the blood, and less rapidly into the tissues. It can be administered with 20 to 80 per cent oxygen by employing the carbon dioxide absorption technic. The outstanding effect on respiration is the depression which may accompany its use, especially when the usual preanesthetic depressant drugs are improperly administered. The circulation is apparently not depressed, but the automaticity of the heart may be disturbed and arrhythmias may result. Experimental investigations reviewed by L. H. Mousel and J. S. Lundy showed no parenchymatous damage to the liver or kidneys. Severe disturbances of the acid-base balance are caused only by errors in the technic of administration. Like ether and ethylene it is flammable and explosive. Some of these properties give rise to technical difficulties which are worthy of further discussion.

Cyclopropane belongs in the class of inhalation anesthetics which possess 100 per cent potency, that is, it can produce profound depression of muscle tone and respiration without the aid of anoxia. It may, on the other hand, be used to produce lighter anesthesia if given in lesser concentration, but only in this circumstance should it be compared with nitrous oxide or ethylene. It is necessary to explain why such a potent drug, which can be given with adequate oxygen, has certain limitations of usefulness and safety. The extent of these limitations is determined by the anesthetist's knowledge of the physiology of respiration and circulation in relation to anesthesia. Many of these undesirable features can be overcome by proper management.

The drugs commonly used to produce preanesthetic sedation and general anesthesia, except the belladonna group, have a tendency to

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depress the activity of the respiratory center. Within limits this center, with the control of the elimination of carbon dioxide, readjusts the chemistry of the blood to compensate for this depression by allowing an increase in alveolar and blood carbon dioxide. However, with an increasing degree of depression a condition may result in which this mechanism of compensation is no longer adequate. At this point a decrease in the amount of depressant drug in the blood is needed, not an increase of the stimulating drug carbon dioxide which is already present in excess. Unless the anesthetic concentration is decreased, the result may be shallow, rapid breathing which tends to bring about improper pulmonary ventilation, gasping or jerky breathing, and finally cessation of respiration. Shallow breathing may result in an accumulation of carbon dioxide and a shortage of oxygen in the blood. If this condition has existed for some time before complete respiratory arrest occurs, one can appreciate the fact that this may be more serious than a sudden cessation of respiration. In either case the concentration of the anesthetic in the lungs must be reduced and proper oxygenation maintained. Inflation of the lungs with air or oxygen will accomplish this objective.

Some anesthetics have a tendency to cause respiratory depression out of proportion to the amount of muscular relaxation they produce. This depression is increased by the use of non-volatile depressant drugs given before anesthesia such as barbiturates and opiates. Opiates should be given 1 to 1½ hours before anesthesia and the barbiturates 2 to 4 hours before, depending upon the rapidity and length of action of the particular drug. Cyclopropane has a tendency to depress respiration somewhat more than ether does in obtaining a similar degree of muscular relaxation. The respiratory center may become depressed before sufficient concentration of the drug is present in the blood to relax the muscles. This may be prevented in some degree by reducing the amount of preanesthetic drug, by slower induction of the anesthesia, and, under the hand of the medical anesthetist, by "controlled respiration."² If profound muscular relaxation is required with general anesthesia, it can generally be produced more safely by blocking the nerve supply to the muscles in conjunction with cyclopropane, or by using ether.

Respiratory obstruction may occur during narcosis without respect to the drug used. Respiratory movements are of no avail if the air passages are blocked at any point. Pharyngeal obstruction, which is caused by relaxation of the

tongue muscles, is more apt to occur in deep anesthesia but may be produced by unconsciousness alone. This may be relieved by holding the lower jaw forward in some instances; in others it may be necessary to insert an oropharyngeal airway which curves back over the tongue and has a lumen of sufficient size to permit the passage of respiratory exchange. The larynx is another site of frequent obstruction to breathing. Laryngospasm is generally more apt to occur during light anesthesia and with certain drugs. It may be caused by (1) a stimulus to the larynx from mucus, vomitus, or other material, (2) a reflex from the operative procedure, (3) a sudden increase in concentration of an irritating anesthetic. Atropine or scopolamine are used to prevent the secretion of saliva and mucus but are not to be used to treat the difficulty once it has occurred. The incidence of vomiting during anesthesia and recovery is reduced by proper preparation of patients. This means admitting all patients to the hospital for elective surgery at least 12 hours before operation, as well as correction of fluid or chemical imbalance. Reflexes from the operation frequently cannot be prevented, but laryngospasm from that cause does seem to occur more often with cyclopropane than with the other inhalation anesthetics. It may occur during deep anesthesia causing a short period of oxygen deficiency. Also, the larynx seems to be more sensitive to small quantities of mucus during anesthesia with cyclopropane than with the other agents. This laryngospasm is usually more annoying than dangerous, but may be serious if prolonged or if it produces complete obstruction to respiration.

The drug itself is not irritating in ordinary concentrations. The cause may be indirect through the vegetative nervous system or simply a lack of depression of the normal laryngeal reflex. Most cases that present this difficulty during light anesthesia have not had enough belladonna derivative to dry up the secretions of the upper respiratory tract. During deep anesthesia it can be prevented by an endotracheal airway introduced before the operation starts.

In my experience respiratory complications are no more frequent after cyclopropane than after other drugs or methods when they are used for the same types of operations. If pulmonary atelectasis occurs more frequently following cyclopropane than other drugs for the same types of operations, it is probably because of errors in the technic of administration such as too much depression of respiration, partial unrecognized respiratory obstruction, or both.

Cardiac irregularities are known to occur during all types of anesthesia. Serious forms of arrhythmia have been observed during cyclopropane anesthesia with complete recovery, but marked slowing of the pulse with irregularities or sudden tachycardia are still to be regarded as danger signs of too high concentration of the agent. If an ample respiratory exchange is maintained, one seldom encounters serious arrhythmia. The blood pressure frequently, but not always, rises during anesthesia with this drug. The more the respiratory activity is depressed the greater the rise of the pressure, which may mean that at least part of this increase is due to retained carbon dioxide. One should be sure that the soda lime in the apparatus is efficiently removing the carbon dioxide and should leave it in the circuit at all times. If the soda lime is turned off part of the time, the patient may be forced to inhale a high concentration of cyclopropane which will produce respiratory arrest when the excess carbon dioxide is later removed.

Capillary oozing is a variable factor and may be annoying during any type of anesthesia. Many think it to be more common when patients are anesthetized with cyclopropane; this may be true because the circulation is ordinarily not depressed with this anesthetic as may be the case with chloroform, ether, and spinal anesthesia.

W. J. Meek and his co-workers have shown that cyclopropane sensitizes impulse centers of the heart to the action of sympathomimetic drugs, especially epinephrine, and therefore these drugs should not be used in combination with this anesthetic.

The best measure in treating respiratory arrest with this anesthetic, as well as others, is to inflate the lungs with oxygen or air, thus lowering the concentration in the blood and central nervous system. Analeptics have very little value in overcoming depression of volatile anesthetics.

The hazard of explosion is present with all inhalation anesthetics except nitrous oxide and chloroform. The greatest dangers seem to be from sparks of high frequency current apparatus and from static discharge. The first danger can be avoided by not using such apparatus with this anesthetic. The problem of static sparks has been attacked by means of maintaining proper fitting of the mask and by constant contact of the anesthetist with the patient and the apparatus. The actual number of deaths from explosions is small compared with the number of preventable anesthetic deaths which

continue to occur with various types of anesthesia.

Summary

The extent to which cyclopropane can be used safely in producing anesthesia depends upon the training and ability of the administrator. For light anesthesia it is relatively safe for all types of patients. If profound relaxation is required, other drugs and methods may prove more satisfactory. In the case of patients with severe heart disease in which relaxation is necessary, I prefer to use ether and oxygen, or field block. The carbon dioxide absorption technic permits the use of just as much oxygen with ether as with cyclopropane. The time and dosage of pre-anesthetic sedation must be properly adjusted for the best results during anesthesia; this requires individual consideration instead of routine dosage. The tendency of cyclopropane to depress respiration must be remembered when giving this sedation and when contemplating deep anesthesia with this agent. Cyclopropane has been proved useful as an inhalation anesthetic and seems likely to remain as a part of our armamentarium until replaced by better drugs. It has not replaced ether in universal use, but each has its place as an inhalation anesthetic.

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ABSTRACT OF DISCUSSION

FREDERICK P. HAUGEN (Philadelphia): Dr. Taylor's presentation is an excellent illustration of the conservatism that has marked the attitude of most medical anesthetists towards cyclopropane. We must be guarded in our comments on new anesthetic agents, particularly until the time comes when in a meeting such as this the surgeons in attendance have in their home operating amphitheaters anesthetists of somewhat similar training and knowledge of physiology and pharmacology. One of the country's leading surgeons, in reviewing the familiar ether versus spinal anesthesia controversy, expressed the same thought in a medical journal a short time ago.

But we must go farther than to standardize the anesthetist's ability. We must recognize that surgeons, through training, habit, and association, have varied requirements as regards anesthesia, particularly in intra-abdominal operations. They may be considered in 3 groups—those who have become accustomed to operating in abdomens with little relaxation, those who require moderate relaxation, and those who require profound relaxation of the abdominal muscles. In my experience, few surgeons in the latter groups realize the degree of relaxation they need, and therein lies much of the difficulty encountered with cyclopropane. There are technics which in the hands of an expert can produce a lack of tone comparable to that of spinal analgesia, but, as Dr. Taylor suggests, it is safer in

most cases requiring such relaxation to supplement the cyclopropane with local infiltration of the rectus muscles, or to add ether, rather than run the risk of respiratory depression and consequent inadequate gaseous alveolar exchange that occurs when cyclopropane is pushed too far by anesthetists not aware of the dangers of such abuses to the patient's physiology.

There are some fallacies quite prevalent about cyclopropane that tend to hinder the progress of its development as a useful anesthetic. So many patients tell me that they have been promised this agent so that they won't be nauseated afterward. I don't believe there is as much postoperative nausea after cyclopropane as after ether, but when all factors contributing to a gastro-intestinal upset are gathered together, such as morphine, excess mucus, dilatation of the cervix, radium, handling of the intestines, inadequate preoperative preparation, etc., any one patient may well be sick postoperatively regardless of the agent used.

Another notable fallacy is concerned with cyclopropane and oxygen. There is no reason why a surgeon who works best when an abdomen is profoundly relaxed should feel that he must use cyclopropane in certain cases because the patient needs the excess

oxygen that can be given with the gas. With the carbon dioxide absorption system, which is practically necessary in administering this anesthetic, one can give ether with as much or more oxygen than with cyclopropane, as Dr. Taylor states. Similarly, if the surgeon is accustomed to using spinal anesthesia, and fears to because the patient needs more than atmospheric oxygen, it is not a condemnation of spinal anesthesia to supplement it with continuous oxygen by open face mask or nasal catheter.

On the other hand, cyclopropane has so many desirable qualities that, all things considered, it more nearly fulfills the requirements of an ideal inhalation anesthetic than any we now possess. It produces a quick, pleasant induction and usually satisfactory relaxation. There is a minimum physiologic upset of acid-base balance and liver and kidney function. It is well tolerated for long periods of time. The recovery period is much shorter than with ether. Postoperative distention seems less. Its nonirritating quality to respiratory mucosa seems to decrease the incidence of postoperative respiratory complications. As Dr. Taylor concludes, it is deserving of a place in the anesthetist's armamentarium.

COUNTY AND STATE AUTHORITIES MUST FIGHT SALE OF RAW MILK

Unless county and state authorities co-operate with city health officials in controlling the sale of raw milk, outbreaks of milk-borne infection are bound to occur, *The Journal of the American Medical Association* for Nov. 16 declares in an editorial.

"In 1932," the editorial states, "*The Journal* condemned the sale and use of bootleg milk, namely, milk offered for sale outside municipal limits and therefore not subject to the regulations governing the sale of milk within the municipality. Several health officers at that time were confronted with the health hazard developed by the sale of milk at roadside stands to residents of nearby cities. Often it came from farms of such insanitary condition that their product could not be offered within the city limits.

"Studies by the United States Public Health Service and the former American Child Health Association have demonstrated again and again that milk-borne epidemics are due almost exclusively to raw milk supplies. In many parts of this country, especially the smaller cities, raw milk still constitutes an appreciable percentage of the daily milk distribution. Raw milk unless certified is frequently produced under conditions not conducive to safety. The danger of contamination of raw milk has been recognized even to the extent that producers of certified milk and the American Association of Medical Milk Commissions, which supervises certified milk production, agree that pasteurization would be an additional safeguard even for certified milk.

"The sale of raw milk continues in spite of the fact that pasteurized milk is safer. Certainly there is no established evidence to indicate that raw milk is any more desirable nutritionally than pasteurized milk. The Council on Foods and Nutrition of the American Medical Association has published the following decision:

"Milk is an excellent medium for many dangerous bacteria as well as an excellent food for man. Disease germs may enter the milk directly from an ailing cow, be introduced by insects, or be trans-

ferred to the milk by the fingers or mouthspray of persons having to do with the collection or transportation of milk. . . .

"The pasteurization of milk is a public health measure. The public should demand pasteurized milk for drinking and the use of pasteurized milk in milk products. The dairy trade should universally adopt pasteurization in the interest of public health.

"There is no cogent evidence that pasteurized milk is significantly inferior nutritionally to raw milk.

"Even today bootleg milk stations, also called 'jug stations,' still operate outside the corporate limits and consequently outside the jurisdiction of some cities in which only pasteurized milk, other than certified, is legal. When every possible legal precaution has been taken to protect a community against potential dangers in raw milk, and milk consumers persist in circumventing the local regulations by buying milk from unsupervised sources, the occurrence of milk-borne outbreaks of communicable disease cannot be attributed to any failure on the part of the health authorities."

BRITAIN TO LICENSE U. S. PHYSICIANS

Canadian and United States physicians are being licensed by Great Britain for the duration of the war, the regular London, England, correspondent of *The Journal of the American Medical Association* reports in the Dec. 14 issue.

"The government has made an order under the Emergency Powers Act, passed for the purposes of the war, enabling the General Medical Council to register for the period of the emergency Canadian and United States physicians," he reports. "They will thus be able to join the Emergency Medical Service with the same privileges as British physicians. Previously we have never had medical reciprocity with the United States."

The Value of Early Diagnosis of Rheumatic Fever in Childhood

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"THE acute phase of rheumatic fever does not, as a rule, present serious diagnostic problems. It is the low-grade active phase following an acute attack, or especially beginning as a smoldering, insidious process, that presents diagnostic difficulties."

Dr. Hedley has stated, "We do not know when it starts, we often cannot recognize it when it is present, we have no cure for it, and cannot tell when it is gone." He might well have included "We cannot incriminate the culpable culprit causative."

In the short time allotted I can only tabulate and comment briefly upon the symptoms, signs, and procedures that seem to be most helpful in making the earliest possible diagnosis of rheumatic fever in childhood. A few statistics are also included, although I believe physicians everywhere are aware of the appalling mortality and, what is possibly of greater significance, the frightful morbidity of this disease.

A careful history from a reliable source by a painstaking historian of all signs, symptoms, and episodes in the child's life should be recorded and kept up to date. Mild, atypical, and evanescent manifestations are too quickly forgotten. Intelligent follow-up should continue from birth through puberty.

Family history is cited often and rated high in the list of helps in early diagnosis. Certainly in a condition so baffling early, and so incurable late, the history of other cases among the relatives is a most important clue.

Fever, low-grade, unexplained, persistent, and occasionally remittent, is an early sign of rheumatic fever. An afternoon rise may mean rheumatic fever (not tuberculosis).

An increased pulse rate may be helpful fairly early if it persists and is not accompanied by some other frank febrile condition, especially

if the sleeping or resting heart rate remains rapid. This excludes the tachycardia due to excitement and fear. If it is elevated with the temperature and does not decline with the temperature, cardiac involvement should be suspected. Sometimes an increase in cardiac force is found instead of, or earlier than, a rate increase. The parents may note and feel the pounding of the heart on the chest wall.

Slight or no gain in weight or even weight loss is common in rheumatic fever, even early, and at all times should be explained if possible.

Lassitude, malaise, and fatigability, while not specifically characteristic of rheumatic fever, must certainly not be dismissed as laziness in any child if complained of often or for long. Tuberculosis can be ruled out by tests and pictures. It is not natural for well children who get enough sleep to be tired all the time.

Changes in disposition, irritability, failure in mental concentration, awkwardness, tics, and muscle twitchings should be considered as early manifestations of rheumatic fever unless otherwise explained.

Anorexia is much too common in childhood to be of any importance, early or late, in the diagnosis of rheumatic fever, except as an integral part of the early, generalized, below-par picture.

Nontraumatic epistaxis occurring frequently, especially with some other common signs as enumerated, must be seriously considered as a fairly early sign of rheumatic fever, even though it be mild.

Infections of the upper part of the respiratory tract including tonsillitis are often quoted as being the "trigger-men" which set off rheumatic episodes. The percentage of instances of rheumatic fever preceded by recent respiratory infection may be as high as 75 per cent, both for initial and subsequent attacks. Occasionally the disease appears to be ushered in or occurs concurrently with the respiratory infection. But

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in most instances there exists a well-defined latent period varying from a few days to 4 weeks between the febrile, respiratory tract infection and the occurrence of the clinical signs and symptoms of rheumatic fever.

But the appearance of the clinical signs and symptoms of rheumatic fever are not entirely dependent upon recognizable respiratory infection. Some apparently nonspecific relationship may be of importance in etiology, and hence in early diagnosis. May G. Wilson, in a very exhaustive treatise just off the press Sept. 12, 1940, stresses the lack of proof of relationship between the occurrence of the common cold, nasopharyngitis, tonsillitis, otitis, sinusitis, bronchitis, cervical adenitis, and rheumatic fever.

Personally, I believe that since thousands of children have respiratory infections and contagious and infectious diseases, they would have to have congenital rheumatic fever in order not to have it following one or more of the foregoing "seeming precursors." In other words, since many children have these infections and do not develop rheumatic fever, and many children develop rheumatic fever without having had recognizable infections previously, there must be a rheumatic soil. They all probably have the same strains of bacteria in their respiratory passages, but only in certain cases does rheumatic fever develop. Of course, when groping in the dark we may grasp hold of anything. It is similar to the idiopathic convulsion situation in children—the little patient has always had a fall or bump or blow at some previous time. Children suffer these accidents often.

Adenitis—especially at the angle of the inferior maxilla draining the tonsils, or perhaps widespread and often antedating joint invasion—in the groups of nodes draining the involved extremities, persistent and prone to reactivation, may be a fairly early sign of rheumatic fever.

Cardiac enlargement is a little late for early diagnosis, though always a significant finding from the standpoint of both diagnosis and prognosis. A slight increase of precordial dullness, especially with an increased rate, even without any change in heart sounds, should make the examiner alert to the potentialities of rheumatic carditis. Of course, it is not easy for every physician to outline the cardiac area by percussion. In a certain carefully followed series definite cardiac enlargement was noted early in all who died in the first year of the disease.

Skin manifestations such as erythema multiforme, erythema marginatum, and purpura accompany carditis, and so are a little late. Ery-

thema marginatum is said to be specific for rheumatic fever in the 5 to 15 per cent of rheumatic children in whom it occurs. Findlay does not consider erythema nodosum a rheumatic manifestation.

Rheumatic nodules are said to be the most characteristic single sign found in 5 to 15 per cent of living cases. They were found post mortem (too late) in 37 per cent of a series of fatal cases. They are thus considered by some to be prognostic of grave future events. Schlesinger noted many exceptions to this last statement, and concluded that nodules should be regarded with some anxiety but should never be considered a fatal omen. In this opinion Hench concurs.

Chorea is a manifestation of rheumatic involvement of the central nervous system. It is usually associated with the milder type of rheumatic fever, but bears a very careful follow-up. It occurs in about 5 per cent of cases of rheumatic fever. It is manifested by emotional disturbances, distractibility, slight to pronounced muscular weaknesses, and dystonia as brought out by the hand to hand, lips to tongue, and grip tests.

Many observers now think that children who have chorea without polyarthritis, the so-called "pure" chorea, escape severe cardiac damage more often than children who have polyarthritis. But the cases of "pure" chorea often do not stay pure; they develop polyarthritis or carditis and must therefore be carefully watched.

Carditis is many times more frequent than polyarthritis as the initial manifestation of rheumatic fever in childhood. Some Philadelphia investigators have interpreted certain cardiac auscultatory findings as being due to a basal pericarditis and as the earliest rheumatic cardiac manifestation.

These findings are adventitious friction-like, at times musical, sounds of variable quality from faint to harsh—usually systolic in time, but often diastolic, and only occasionally of the double or to and fro type. They have no definite route of transmission and their intensity often varies from beat to beat, never totally obliterated by deep inspiration. They are loudest with the patient prone, and are accompanied by an accentuated pulmonic second sound. They are best heard at the left second and third costosternal junctions, and are apparently due to a mild plastic rheumatic pericarditis at the base of the heart in the region of origin of the great vessels involving the fold of the pericardium at the point of reflection of the latter structure. The sulcus between the aorta and the pulmonary

artery is an excellent dam for the accumulation of inflammatory exudates or transudates. A syndrome of pain in the upper left quadrant occurring only on locomotion has been described in association with this early pericarditis.

Carditis was found to be the initial manifestation in 18 per cent of another group's large series of cases. In a group of fatal cases in another series, 94 per cent showed cardiac involvement from the first attack. Some state that a valvular roughness rather than a distinct murmur is a very early sign. It has been stated that so-called congenital functional murmurs should be more closely followed, as it is possible that such hearts may be more readily injured by infection than those with no audible murmur.

Of 100 cases of carditis studied carefully at a mid-west clinic, 84 gave a history of definite attacks of acute polyarthritis or chorea, or both; 60 rheumatic fever alone; 8 chorea alone; and 16 both. Practically all were so severe as to require bed care. As far as heart lesions or the nature of the continued rheumatic process was concerned, no difference could be noted between those children who suffered a definite major episode of rheumatic fever and those who did not. Some early sign is still being missed.

Heart sound recording apparatus is being developed in the laboratories of the pediatric department of the University of Minnesota. It seems to have demonstrated the presence of diastolic murmurs long before they were audible to any of the examiners. But, until perfected, simplified, and made available to the physicians who see the patients early, its usefulness will be limited.

Pollack rather clearly differentiates between nonrheumatic and rheumatic growing pains in Abt's *Pediatrics*. His description plus records of temperature, pulse, sedimentation time, and white blood cells should help, even early. The nonrheumatic pains are in the thigh and leg muscles and tendon and the periarticular tissues, not in the joints, and rarely in the upper extremities. They usually begin late in the day and are most severe 2 hours after the children go to sleep. These pains recur in the night and perhaps cause the children to cry. The patients are often well-nourished, healthy children, and may be from families in the upper economic levels.

Children who give a long history of indefinite limb pain seldom develop any serious rheumatic manifestations such as carditis. The cause of mildly aching limbs of short duration and recurring frequently over long periods is usually some orthopedic condition (flat feet, hammer

toe, coxa vara, scoliosis) or dehydration from malnutrition, possibly muscular abnormality, fatigue from hard playing, or maybe fibrositis of septic origin. Limb pains which may be followed by carditis—and thus probably are of the nature of rheumatism—are usually severe, continuous for a day or more at a time, appear at long intervals, and often cause confinement to bed.

The expression "growing pains" denotes pain due to normal physiologic growth which has no factual proof as yet. One writer claims that he has demonstrated minute fractures of the metaphyseal plate at the growing ends of the long bones in certain otherwise healthy but rapidly growing children who have died of acute illness or accident. This is a fairly plausible explanation of growing pains, if true. As to differential diagnosis, I would prefer to err in calling growing pains rheumatic rather than err in failing to diagnose rheumatic fever as early as possible. I have more faith in my ability to reform a neurotic than in my power to arrest a rheumatic. And I believe that with such excellent differential diagnostic criteria as have been provided by the (excellent) workers in this field, together with certain laboratory procedures, we need not fear creating cardiac cripples.

Rheumatism and joint infection are not synonymous. Joint pains are not a constant finding; they are likely to be found in something over 50 per cent of cases of rheumatic fever, and certainly not always early. They are in the joints themselves, of both upper and lower extremities, they migrate, and they may be accompanied by signs of inflammation.

There is a group with frequently unrecognized gastro-intestinal symptoms as the only manifestation of an active rheumatic phase. These symptoms precede an attack of rheumatism in children and are associated with some mild manifestations of the disease. They may simulate enterospasm or navel colic, functional neurosis in the gastro-intestinal tract, defective gastro-intestinal mechanics as from peritoneal bands over the duodenum, mesenteric lymphadenitis, and particularly appendicitis.

Cultures made from children dying of rheumatic fever and endocarditis have shown that streptococci have often been harbored in the abdominal lymph glands and spleen. Localized peritoneal inflammation has been observed in the upper part of the abdominal cavity. Chronic peritonitis has been noted at necropsy around the liver and spleen in fatal cases of rheumatic fever. Abdominal friction has been noted, especially over the liver, in cases of rheumatic

fever. Aschoff bodies have been demonstrated in the diaphragm in fatal cases. Abdominal pain occasionally localizes for a time around the umbilicus or McBurney's area, but is usually generalized. Tenderness is infrequent; rigidity is almost never found.

Other manifestations of the active phase of rheumatic disease are frequently associated with the abdominal symptoms—pallor, weight fixation in spite of a properly balanced diet, irritability without apparent cause, and aches and pains in various muscles and joints, often attributed to rapid growth.

It is only when organic heart disease is accidentally discovered during the course of a physical examination that an active rheumatic state is recognized. Unlike repeated attacks of appendicitis, which become more aggravated with each succeeding attack, abdominal rheumatic disease becomes milder each time. This is misleading from a pathologic viewpoint because one may assume that less severe symptoms indicate diminished activity; in reality the converse may be true. Findlay strongly opposes the view that rheumatic fever ever produces meningeal, pleural, pulmonary, or peritoneal manifestations.

Pain in the lower axillae, left more often than right, may denote rheumatism and it has been suggested that such pain originates in the intercostal muscles. This is a question, however, since breathing seldom aggravates such pain.

Anemia, often quite severe, usually develops during the active phase of the disease and improves as the infection subsides. It seems to be an indication of continued rheumatic activity, but is not helpful in early diagnosis. The resultant pallor is mild, early, and is not necessarily accompanied by a lowered hemoglobin. Any anemia otherwise unaccounted for should remind one of rheumatic fever toxemia.

The leukocyte count has been declared to be the most valuable single procedure for ascertaining the presence of rheumatic fever in differential diagnosis. I fear it is not of much help early. It may assist in determining continued activity when the diagnosis is once established, and a moderately increased count should be significant even early if other signs present themselves at the same time. It is usually a low-grade polymorphonuclear leukocytosis, but occasionally occurs as a puzzling lymphocytosis.

The sedimentation test is variously evaluated by different observers. Most of them feel that it is not of outstanding value in very early diagnosis but is helpful in determining continued activity of the disease when the diagnosis is once

established. It should be done early, however, in every suspected case, and repeated often enough to detect the first increase in rate.

A worker at one of the better-known heart houses states, "In my opinion a sedimentation rate that remains elevated for a month or longer in the absence of any other cause (as boils, chronic otitis media, markedly infected tonsils, etc.) suggests rheumatic activity." An increased sedimentation rate does not always mean that the rheumatic infection is still active. The patient may be convalescing in a phase pathologically termed the proliferative stage.

When anemia exists, as it so often does in rheumatic fever in children, the sedimentation rate should be corrected so as not to add undue pessimism to a prognosis already too often pessimistic.

I do not know of any work having been done to indicate how early the sedimentation rate is definitely above normal in rheumatic fever.

It has been estimated that 95 per cent of cases during the course of rheumatic fever show electrocardiographic changes. I feel that they occur too late. The chief change is prolongation of the auriculoventricular conduction time to .18 seconds or over in a child. This change and a slurring and elevation of the S-T portion in 2 leads are the only distinct pathologic changes which may exist in the electrocardiogram without other clinical evidence of heart disease.

Some workers consider the roentgen ray valuable in early diagnosis by detecting alterations in the size of the heart over a period of 1 to 3 months, even though it still be within calculated normal limits. Others stress alterations in contour.

In rheumatic children, regardless of the presence of arthritis, strongly positive formol-gel reactions are observed only when severe, active carditis is present. Negative results, on the other hand, indicate the absence of severe carditis and are of favorable prognostic import. Occasionally, where positive gel reactions persist longer than elevations in the sedimentation rate, this test may provide the only evidence of continued rheumatic activity.

The formol-gel reaction is apparently not influenced by the presence of cardiac decompensation or anemia, as is the sedimentation rate. However, this reaction is apparently useful after carditis has developed, and hence not helpful early enough in the course of rheumatic fever to avoid carditis, the greatest scourge of rheumatic fever.

The Weltmann serocoagulation reaction is a nonspecific laboratory aid in diagnosis and

prognosis. Its use helps to indicate whether the pathologic process predominant at the time is exudative, fibrotic, or septic. The literature suggests that at times this reaction may give more information than the sedimentation rate. But it is not apparent that the reaction is helpful in early diagnosis of rheumatic fever. Dr. Dees, in the summary of her clinical study of this test, says it is helpful, but in explaining her chart of rheumatic infection cases she states that they were severe cases requiring hospitalization, many with well-developed valvular lesions. That is not early, at least not usually.

The appearance of resistance to streptococcic fibrinolysin in the blood of patients with acute rheumatism is not an essential part of the rheumatic process. Antifibrinolysin is present in about 78 per cent of patients with acute rheumatism, which is approximately the proportion of normal patients who develop antifibrinolysin following a streptococcic infection. There is no correlation between the duration of the antifibrinolysin and the duration of the rheumatic attack or between antifibrinolysin and the severity of the rheumatic attack. It would seem that this nonspecific test is of no value in early diagnosis of rheumatic fever in childhood.

Estimation of the antistreptolysin (antihemolysin) titer of suspected cases of rheumatic fever is not helpful, early or late, because streptococci have not been proved to be the causative agents of rheumatic fever.

Blood phosphorus is believed to be frequently lowered in rheumatic activity, and may be of some assistance in early diagnosis.

A group of Eastern workers found in an intensive study of the second afebrile, symptom-free period of about 14 days' duration, between the (first) period consisting of a 1- to 3-day attack of infection of the upper part of the respiratory tract and the (third) period of acute rheumatic fever composed of one or more 10- to 14-day cycles of activity, separated by 7- to 10-day remission periods, that there was a diminution of serum complement. Except for acute nephritis and serum sickness, a wide variety of other diseases showed little or no variation in the complement level.

Whether this decrease in titratable complement observed during the course of rheumatic fever is a result of the rheumatic process or a factor in its pathogenesis cannot be decided *a priori*. However, the decrease which occurs in the second phase (which appears to be crucial in the genesis of rheumatic activity) before the onset of acute rheumatism is definitely *not* a result of rheumatic activity, thus further suggesting the possibility that the phenomenon may be a factor in the pathogenesis of the rheumatic attack.

Whether these workers consider the precipitin reaction occurring between sera taken just before and shortly after the onset of acute rheumatism, and recurring with repeated rheumatic cycles, to be of any practical clinical value in early diagnosis was not mentioned in a personal communication from one of them.

The problem, therefore, of controlling the incidence of juvenile rheumatism until the exact cause is found lies in continuing as intensive, comprehensive, and systematic educational a campaign during the preschool and early school age as is being conducted against the ravages of tuberculosis, syphilis, anterior poliomyelitis, and appendicitis. The causes of the first 2 diseases are known; of the latter two, unknown. Specific therapy is to be had for only one of the 4 diseases. And still the battle rages for their subjugation. Why not conquer rheumatic fever in childhood before it ravages childhood?

The idea must be to study and correlate the information obtained from periodic examinations, personal hygiene, diet, patient's and family history, environment, temperament, and habits of this type of child. We must be "rheumatic fever minded" all the time.

Parents and family physicians must be helped to understand the seriousness of all of the vague and seemingly minor symptoms which appear to precede or be the earliest manifestations of rheumatic fever in childhood.

Many of the views expressed in this paper were contained in 87 answers to questionnaires submitted to 100 leading internists, cardiologists, and pediatricians in England, Canada, and the United States of America.

NOTE: The discussion of the papers by Drs. Foster, Cahan, and Ash follows the paper by Dr. Ash.



Rheumatic Heart Disease in Families

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IN MANY rheumatic families the infection is so prevalent that the physician is likely to discover new heart cases if he investigates not only the patient but every member of the family. A negative personal history is often of no value, because many rheumatic manifestations may be neglected or forgotten by the patient or parent. The child may have had lassitude, mild sweats, dyspnea, anorexia, loss of weight, or repeated epistaxis, any or all of which may have received little attention. Or the patient may have had a slight fever that had been unnoticed, or frequent attacks of sore throat, attacks of tonsillitis, repeated vomiting spells, or recurrent unexplained abdominal pains, any or all of which may have been misinterpreted. Still worse, even excessive nervousness or mild attacks of chorea, recurrences of torticollis, episodes of pain in the precordium, severe muscle or "growing pains," or painful and swollen joints may have disappeared before the rheumatic infection was suspected. Yet, these symptoms, as well as an initial illness lasting a week or two, occasionally may have masked the insidious invasion of the rheumatic agent.

Many parents fail to realize that all muscle and joint pains in a child require medical investigation. Parents may have given their children relief from symptoms by the use of a home remedy, or by following advice received over the radio or in printed form. Furthermore, when the usual family history obtained by the physician covers only a few points related to any chronic illness or causes of death in members of the family, it is not so reliable as a careful investigation of every member of the family with special reference to any rheumatic affection. Of course, frank, prolonged, acute rheumatic fever infections or unmistakable episodes of marked chorea are not usually forgotten.

Like the parent, the physician may fail to recognize the insidious infection and disregard the warning signals. When the physician makes an occasional visit, he may find such vague signs as slight pallor and fever, although there may be a relatively marked tachycardia. He may find no demonstrable hypertrophy of the left side of the heart when the patient has been in bed for some time, yet even this may be underestimated. There may be an accentuation of the first heart sound without anemia, hyperthyroidism, hypertension, or cardiac neurosis otherwise to account for it. A systolic murmur may have been present for over 10 days and be considered as a functional sign of no significance. Even subcutaneous nodules may be present but be considered other than rheumatic. When these suggestive signs are so misinterpreted, and the personal and family history is apparently negative, the physician may not become sufficiently inquisitive to investigate the affliction any further with laboratory, electrocardiographic, or other methods in order to try to rule out rheumatic infection.

Thus, a combination of the following circumstances may result in the oversight of a rheumatic heart case: the unintentional neglect on the part of parents who may have resorted to other than medical advice, the inadequate and too brief observation on the part of a physician who is too easily satisfied with a negative history and doubtful findings, the frequent intervals of the patient's freedom from complaints, the fact that the ambitious school child follows the usual routine and probably participates in competitive games, and finally the lack of a periodic health examination. The unhappy succession of all these intimate factors may result in the tragic neglect of a rheumatic heart failure in a child, or, later, even in the economic loss resulting from helpless invalidism in adulthood.

A Study of Rheumatic Families

This report is based on a study made by reviewing the 1627 private cardiac records of 1517 children and 110 parents. These records

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From Prof. Hobart A. Reimann's Department of Medicine, Jefferson Hospital, Philadelphia, and Dr. Walter S. Cornell's Division of Medical Inspection, Philadelphia Board of Public Education.

showed that 629 individuals had rheumatic heart disease at the time of examination or re-examination, some time between the years 1920 and 1940. In 11 of these the acquired lesion was combined with a congenital acyanotic heart condition. Families in which a parent and a child, or 2 siblings, were afflicted with rheumatic heart disease were selected for further study. A complete history relating to rheumatic symptoms was obtained of the entire family, and a careful examination was made of every available member of the family. The examinations were made invariably with the permission of the private physician, and usually at home. So far, 53 families have been studied. The number of children in each of these families varied from 1 to 10 and totaled 174, 84 boys and 90 girls. Two of the families had one child each, 23 families had 2 children each, 10 families had 3 each, 8 families had 4 each, 2 families had 5 each, 5 families had 6 each, 2 families had 7 each, and one family had 10 children. At the time of examination 128 of these children had rheumatic heart disease. Rheumatic heart lesions were also found in one of the 18 grandchildren, in 37 of the 55 parents examined, and in 5 of the 7 grandparents examined. Altogether, 171 rheumatic heart cases were found among the 235 individuals examined. Time will not permit me to give a detailed analysis of their anamnesis and physical findings, but several family case histories will be given, and I will conclude with a comment on the rheumatic family and its physician.

Family Case Histories

Family A. G.—The mother of this family had assembled 5 of her 7 children, her brother, her sons-in-law, grandchildren, and 2 grandparents—17 people—ranging in ages from 4½ months to 83 years. The group was helpful, both collectively in the course of giving answers to questions on points in the past histories, and later individually at the physical examinations. One member often remembered another's complaints, and at the examination, since nobody wanted to be slighted, the blood pressures of some grandchildren even had to be taken. The mother, age 55, had "rheumatism" at age 5, and after a second attack of pneumonia was bedridden during the entire eleventh year of her life. When she was past age 30, she began to be short of breath, and the dyspnea and the pain in the legs have been severe since 1935. She was said to have had cholelithiasis in 1935 and in 1939, and urinary calculi in 1938, but she had no operations.

An interesting point in the history was that the whole family was said to be suffering from "migraine" headaches weekly. On examination, the mother had a mitral stenosis. The oldest son, Matthew, had pulmonary tuberculosis, and was receiving pneumothorax treatments every 2 weeks. Joseph was not examined, and Theresa showed no heart disease. Dorothy had had measles, chickenpox, and pertussis, and had enjoyed an active school and outdoor life. She was sur-

prised to learn that she had a double mitral heart lesion. Dolores also had had measles, chickenpox, and pertussis before age 4. At age 16 she had scarlet fever. She had dyspnea at age 21, and on examination showed a double mitral lesion. John had pertussis at 1½ years, measles at age 4, and a tonsillectomy was performed at age 7. Then followed 5 attacks of chorea and rheumatic fever, confining him in bed 4 months each time, from the age of 8 to 12 inclusive. On examination he, too, showed a double mitral lesion. Loretta had a history of scarlet fever at age 5. Although she had participated in the prescribed gymnasium activities in high school, on examination she showed signs of a double mitral lesion. Thus, in addition to the mother, only John, the sixth child, had a definite rheumatic history, unless the "migraine" headaches be considered as the only manifestation of a rheumatic state in the other 3 children who were not aware of their heart affections. The source of tuberculosis infection in Matthew was not determined.

Family J. G.—The parents of this small family were presumably healthy. At age 5 the boy's tonsils were removed, and he had measles and pertussis. He was a very lively boy. One evening when he was 8 years old he had severe pains in the legs, but he was "fit to go to school" the next day. At age 9, he had severe abdominal pain that lasted a whole day. A physician was called, and he assured the parents that it was not appendicitis. One day in 1934, when he was age 11, he brought home a note from school which stated that he had heart disease and recommended treatment. He was taken to a physician who, in turn, took him to a cardiologist. The boy was found to have rheumatic heart disease, pancarditis, with a double lesion at the mitral and aortic valves. His illness became progressively worse, and subsequently he rarely attended school. In May, 1939, he was taken to a hospital where he suffered for 6 weeks, and died of heart disease on July 28, 1939. This boy was critically ill for over 3 years out of the 5 years he was known to have had heart disease, and yet the mother had never been examined for any heart condition. She herself had a mitral stenosis and hypertension, systolic 180, diastolic 95. The other child of the family, a girl, had scarlet fever at age 12 and had occasional abdominal pain which was attributed to drinking water. On examination she showed an apical systolic murmur and a reduplication of the second sound at the apex.

Family J. M.—The 59-year-old mother of this large family was pregnant 16 times. Ten children are accounted for here, one child having died at 6 months, another at 9 months, and 4 being miscarriages. At age 55 the mother had an attack of cholecystitis; otherwise, her history was entirely negative. On examination she showed signs of a mitral stenosis. Her husband had rheumatic infection when he married and had developed heart disease. He also had diabetes mellitus and died in coma at age 56. Of the 10 children, only Angeline, the oldest, was not examined because she lived out of town. The second child, Nicholas, had acute rheumatic fever and showed evidence of heart disease at age 10. At age 28 he had pericarditis and double mitral and aortic lesions. His heart was decompensating from time to time, and the auricular fibrillation lasted for 4 years. He died in the Jefferson Hospital on Feb. 25, 1940, when he had just passed his thirty-second year. One of his 2 children, Jean, age 9, had rheumatic heart disease.

The next 2 children of the original family, Frank and Rose, had no heart disease. The fifth, Samuel, was in a hospital with acute rheumatic fever infection and severe polyarthritis for 3-month periods, at age 11 and again at age 19. His infection and arthritis were still active on re-examination Mar. 29, 1940. The apex beat was felt at the preaxillary line, and he had a double mitral lesion. Frances had a negative history, and Mary's only complaint was chronic headaches, but both had mitral regurgitation. The eighth child, Anna, had occasional abdominal cramps at age 8 and at age 9. Appendectomy did not give her any relief. On examination she showed signs of a double mitral lesion. Steven and Joseph had negative histories, but each had evidence of rheumatic infection. Steven had only a mild cardiac damage, and Joseph had a double mitral lesion of an early stage.

The 7 older children were married, and of the 4 grandchildren examined, the oldest one, as previously mentioned, showed signs of rheumatic infection. This family illustrates the prevalence of the infection in a large family and the importance of examining the entire family if an accurate knowledge of the extent of rheumatic infection is to be obtained.

The Rheumatic Family and Its Physician

Observations of the behavior of rheumatic infection in families are over a century old, but this factor in etiology has not been receiving the attention it deserves. Not enough physicians suspect that somebody else in the family is likely to have shared the infection with the patients, and many fail to get a complete familial history. Yet, the combined information of all the members of the family is likely to reveal a greater number of fuller and more reliable answers than any one person's testimony. One must look for a positive case of rheumatic infection in the family rather than for a positive personal history of the patient. One must consider also the influence of other well-known etiologic factors on the patient, as well as his general resistance to the infection. Of course, when there is a positive history of infection, or when there is a known rheumatic heart case in the family, certainly every available member should be examined for signs of the infection, and periodically

re-examined for rheumatic heart disease. These re-examinations should be considered as familial periodic health examinations rather than as searches for rheumatic damage.

Frequent observations are all the more important when it is realized that prevention, regression, or even disappearance of heart disease in rheumatic infection is possible, but it depends on the early recognition of the infection and the prolonged rest or diminished activity until the period of infectivity has subsided. Such watchful care may have to be continued throughout the child's school years, and later be kept in mind when the questions of a suitable vocation and avocation come up for consideration in the adult's career.

In the final analysis, the parent—or rather the mother—is the most constant and vigilant observer of any symptom of invasion of rheumatic infection of the child. When the physician is called, he ought to make it his duty to protect the patient as well as the entire family against the effects of rheumatic infection. This should be done not only by the private physician but also by the hospital, school, and industrial physicians, and may require the co-operation of several of these. In no other disease can the examining physician be more helpful to the whole family. If the physician will supplement his old, reliable 5 trained senses with a sixth sense, the sense of familial investigation, he can discover most if not all rheumatic affections. He can also instill greater confidence and optimism in the minds of the afflicted and the rest of the family. He should be family-minded even if he is not the family physician. Such parental and medical vigilance may help to decrease the number of cardiac cripples, and may prove to be the wisest medical guidance of each member in every rheumatic family.

NOTE: The discussion of the papers by Drs. Foster, Cahan, and Ash follows the paper by Dr. Ash.

See "A State-Wide Invitation" on page 497, also "Remitting County and State Society Dues of Members Absent in Military Service" on page 501.

The Evolution of Rheumatic Heart Disease in Childhood

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IN THE present paper changes in the physical signs of the heart that occurred in a group of 549 rheumatic children over an average period of 9 years will be discussed. These observations are based on a follow-up study made in 1939 of 580 children whose primary rheumatic manifestations had occurred during the years 1922-36 and who had come under the care of the Children's Hospital.

It is to be emphasized that the presence of clinically demonstrable heart disease is by no means the most important guide to the management of the rheumatic child. Of greater importance is evidence indicating the existence of active infection. Such infection may be present when the heart seems normal. On the other hand, advanced valvular lesions may exist in an individual who has stabilized his infection and need not be hampered by unnecessary restriction of exercise. By careful consecutive examinations of the heart, however, we can often secure information of value in determining whether infection is progressing or regressing and may occasionally obtain a clue which points to the existence of renewed activity.

Composition of the Group

The composition of the group in accordance with the type of initial illness is outlined in Table I. Antecedent infections of the upper part of the respiratory tract, including pharyngitis and tonsillitis, have been ignored, since in the present state of our knowledge it is impossible to decide whether such infections are coincidental, predisposing, or true primary manifestations. Acute carditis, polyarthritis, and chorea have been accepted as initial manifestations. Children with complaints of myalgia and joint pains were considered rheumatic if such pains were present in the upper and lower extremities or were associated with other signs of infection. Many were brothers or sisters of patients who had suffered from more acute manifestations.

A diagnosis of insidious carditis was made when valvular lesions characteristic of rheumatic heart disease were found on a first examination with no known history of illness or preceded by a period of vague ill health. Epistaxis and abdominal pain occurred to some degree in all the subdivisions of the group.

The average age of onset was 6.9 years. Among the youngest children were those taken ill with acute carditis; the oldest, those attacked by chorea.

Initial mortality was highest among patients with acute carditis, 30 per cent of whom ran a rapidly fatal course. Approximately 9 per cent of the entire group had died during the first year of the disease.

TABLE I
INITIAL INFECTION

Type of Onset	No. of Patients	Average Age (Years)	Valvular Heart Disease (Per cent)	Deaths (Per cent)
Acute carditis	45	5.7	100	30.4
Acute polyarthritis ..	297	6.6	60	9.6
Chorea	108	8.0	21	3.2
Myalgia; joint pains.	53	7.5	47	0.0
Insidious carditis	46	7.0	100	0.0
Total	349	6.9	62	9.2

Cardiac Damage at Onset

For the estimation of cardiac enlargement, use was made only of the position of the apex beat as determined by palpation, aided by the study of teleoroentgenograms. No application was made of the "angle of clearance" test described by May G. Wilson.

Nineteen per cent of the group presented no obvious signs of heart damage during the initial illness. In accordance with the criteria of the American Heart Association, they were classified as cases of potential heart disease.

In an additional 19 per cent, the heart re-

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mained within normal limits of size, but systolic murmurs were audible and of the type usually considered accidental or functional. Such murmurs were heard in the second to fourth left interspaces, loudest either in the pulmonic area or midway between apex and sternum, frequently characterized by a low-pitched musical twang. They differed in no way from similar murmurs heard in other febrile or toxic states and in presumably well children. Their appearance as newly heard murmurs in early rheumatic infection may be indicative of myocardial disease, particularly when associated with an unduly accentuated third heart sound. Although there is evidence pointing to the existence of rheumatic endocarditis in some of these patients, the mere presence of such murmurs does not justify one in making a diagnosis of valvular damage. Children with cardiac findings of the sort described were classified as having potential and possible heart disease.

The appearance of some degree of cardiac enlargement accompanied by a systolic blow maximum at the apex, higher pitched than the previously described mid-precordial murmur and transmitted to the left, was accepted as an indication of mitral disease with regurgitation. The earliest evidence of such a murmur was frequently a distant, short puffing sound, resembling the expulsion of a jet of steam.

Not uncommonly, after cessation of the initial acute symptoms, a silent interval preceded the appearance of an apical murmur. A persistently rapid sedimentation rate was often the only indication of infection at such times. A typical case is that of a girl, age 11, taken ill May 19 with fever and pain in the ankles, admitted to the hospital with a temperature of 101 F. and swollen tender ankles. On the fourth day of the disease all joint pains had disappeared and the temperature had returned to normal. Normal heart sounds were heard at the apex until June 4 when a faint systolic blow began to be heard inconstantly. During the following week this murmur became constant, with a gradual increase in intensity and in the degree of transmission into the left axilla.

It is to be emphasized that the natural course of rheumatism characteristically is one of cycles of activity alternating with latent intervals free from obvious symptoms of infection.

During active carditis a short mid-diastolic blow to the right of the apex was frequently audible, comprising in association with a systolic blow the so-called foo-ti-foo murmur. An additional clue to the existence of active infection was a high-pitched musical screech or whistle

heard in the region of the apex as a component of the systolic murmur. In the present series this screech was heard 48 times, in all but 2 instances associated with clinically recognizable active infection, usually of severe degree. The appearance of a diastolic blow to the left of the sternum was interpreted as the result of involvement of the aortic valve. Finally, the most ominous sound was the pericardial friction rub, heard 33 times during the initial attack of carditis, followed 24 times by an early death.

With subsidence of infection and improvement in myocardial tone, regression of these cardiac signs occurred. The heart decreased in size. The systolic screech disappeared, followed by the third heart sound or gallop rhythm. The mid-diastolic blow frequently became so short as to be indistinguishable from the third heart sound. In 24 known instances this mid-diastolic blow became inaudible before recovery from the first attack. In 10 instances a diastolic blow to the left of the sternum could no longer be heard.

TABLE II
REGRESSION OF RHEUMATIC HEART DISEASE

	<i>No. of Cases</i>
Disappearance of signs of mitral disease: ..	37
Systolic murmur	37
Mid-diastolic murmur	6
Duration of signs less than one year	19
Duration of signs greater than one year ...	18

At the termination of the first attack 62 per cent of the children were considered to have signs of organic mitral disease; 9 per cent suffered from associated aortic insufficiency.

Cardiac Changes Following Recovery from the First Attack

Over the course of the years, changes occurred in the classification of these patients.

Regression of Rheumatic Heart Disease (Table II).—In 37 individuals with signs of mitral disease after the subsidence of active infection, the lesion regressed, disappearing within one year in 19 cases and over a period of years in 18. In 6, both mid-diastolic and systolic blows became inaudible. The remainder had presented systolic blows only. In contrast with the 24 fatal cases of pericarditis, one individual had lost all signs of heart disease including a friction rub within one year.

In an additional 13 patients, regression of cardiac signs was followed by reappearance of heart disease during subsequent flare-ups.

Progression of Rheumatic Heart Disease (Table III).—Of the patients with an initial diagnosis of potential or possible heart disease,

TABLE III

PROGRESSION OF RHEUMATIC HEART DISEASE

	<i>No. of Cases</i>
Development of signs of valvular damage ..	39
Original diagnosis, potential heart disease	20
Original diagnosis, possible heart disease	19
Appearance during acute recurrence	31
Insidious development:	7
Mitral stenosis	6
Aortic insufficiency	1

39 subsequently developed signs of valvular damage, 31 or 82 per cent in association with acute recurrences. Transient signs of heart disease were noted in 6 other children during recrudescences of rheumatic infection. Of peculiar interest, however, were 6 individuals in whom heart disease appeared without obvious association of renewed infection, 5 developing mitral stenosis and one, aortic insufficiency.

To recapitulate (Table IV), at the close of an average period of infection of 9 years, 10 per cent of 340 patients with early signs of heart disease showed no obvious cardiac abnormality. Regression in 37 members of this group was balanced by the development of cardiac lesions among 39 of those originally considered to have possible or potential heart disease.

Recurrences were a predominant factor in maintaining and increasing cardiac damage. Ninety-two per cent of those with persistent heart disease gave a history of recurring infections, whereas only 45 per cent of the group in which regression of cardiac signs was noted gave a similar history of recurrences. Eighty per cent of the lesions of the heart which were contracted subsequent to the first attack made their appearance during acute recrudescences. On the other hand, in the seeming absence of infection, after a prolonged latent period, the murmur of mitral stenosis became audible in 5 individuals and of aortic insufficiency in one. Whether the appearance of heart disease in such individuals implies the existence of subclinical activity of the infection is a subject for speculation.

TABLE IV

VARIATIONS IN CARDIAC FINDINGS DURING RHEUMATIC INFECTION AVERAGING 9 YEARS IN DURATION

<i>Diagnosis at Onset</i>	<i>No. of Cases</i>	<i>Final Diagnosis</i>		
		<i>Rheumatic Heart Disease</i>	<i>Possible Heart Disease</i>	<i>Potential Heart Disease</i>
Rheumatic heart disease	340	303	11	26
Possible heart disease	107	19	33	55
Potential heart disease	102	20	10	72

Recognition of the fact that the mid-diastolic blow heard during active carditis is not a sign of organic mitral stenosis has been a relatively recent development in the study of rheumatic heart disease. This murmur appears early in the disease, at a time when the mitral ring is dilated rather than stenosed, and tends to disappear with subsidence of active infection. In the present series mitral stenosis of the adult type with typical diastolic rumble was noted 45 times (8.5 per cent). The average age at which the rumble was first heard was 12 years, approximately 5 years after onset of infection.

At the end of the first year 46 individuals were dead. After an average duration of 9 years 144 had died. Approximately one-third of the deaths had occurred within the first year following the initial infection.

Summary

The changes in physical signs of the heart that occurred in a group of 549 rheumatic children over an average period of 9 years have been described. The majority of children destined to develop rheumatic heart disease had already done so in their initial illness. Moreover, the early months of the disease were relatively the most fatal. Methods designed to influence rheumatic infection must therefore be instituted upon the earliest appearance of any manifestation.

Recurrences were the predominant factor in the maintenance and in the fresh appearance of cardiac damage. In a small percentage of cases, however, signs of valvular disease made their appearance in the seeming absence of infection after a latent period of years.

Because of the cyclic nature of the disease, the tendency to recurrences, and the possibility of insidious development of valvular lesions, rheumatic individuals should be kept under continuous medical supervision, with careful periodic examinations for signs of infection as well as signs of cardiac damage.

ABSTRACT OF DISCUSSION

OSWALD F. HEDLEY (Philadelphia): In opening the discussion of these 3 extremely interesting and thought-provoking papers on rheumatic heart disease, I am appropriating one of the prerogatives of the clergy and taking a text from the Scriptures.

In Matthew VII: 7 we are given the injunction, "Seek and ye shall find." The development of knowledge concerning rheumatic fever, and for that matter every other disease, is dependent upon obedience to these Divine instructions. Determination of the familial incidence of rheumatic heart disease, better knowledge concerning its natural history, and more exact information about its geographic and economic distribution can largely be solved by patient inquiry with means that are available.

Dr. Foster has indicated the importance of keeping the disease in mind, of never overlooking the possibility that the "run-down" child with vague symptoms may be well along the way toward becoming a victim of this disease.

For knowledge about its ultimate etiology, we must continue to look to the laboratory. At the present time we scan the horizon in vain for more than a few hints as to the microbiologic factor responsible for this disease.

Dr. Cahan's discussion of the familial aspects of rheumatic heart disease illustrates the wide gap between knowledge on the part of the student of a problem and the application of this knowledge by the great mass of practicing physicians. The fact that more than one case occurs in about 40 per cent of rheumatic families has been known for at least 15 years.

Dr. Cahan has augmented this observation with studies of a number of family groups clearly illustrating the frequency of more than one case in a household. He arrives at the logical conclusion that the doctor should be a family physician in the true meaning and sense of the words; that he should be friend, confidant, and adviser in health as well as in times of sickness.

The observation that rheumatic heart disease may extend even unto the third generation serves to show in clear detail the importance of this disease as a familial problem. I was extremely interested in the occurrence of rheumatic heart disease in the husband and wife in family J. M. Although it is by no means uncommon to encounter more than one case of rheumatic fever developing in siblings simultaneously or in close sequence, I have never been able to find any well-authenticated examples of conjugal transmission. I do not believe that it can be dismissed solely on the basis that older persons are less frequently attacked. Epidemics of rheumatic fever have been reported in schools and barracks. The transmission from husband to wife, or vice versa, would seem possible if the disease were due to contact infection.

We are delighted that Dr. Ash has given us the benefit of another 5 years' experience with children having rheumatic heart disease at the Children's Hospital. The inconstancy of mid-diastolic mitral murmurs deserves special mention. These murmurs are extremely difficult

to evaluate. They often simulate the third heart sound and on disappearing blend into it.

Although they may be regarded as indicative of cardiac damage, they should not be regarded as signs of mitral stenosis. These murmurs are so characteristic and different from the true murmur of mitral stenosis that an experienced listener can become reasonably accurate in predicting their ultimate disappearance in convalescent patients.

The observation that so much irremediable damage can occur in so short a time is in substantial agreement with other students of this disease. It emphasizes the importance of earlier diagnosis, a matter which Dr. Foster discussed in considerable detail.

Dr. Ash's findings about the severity of prognosis of rheumatic pericarditis brings to mind the statement by the late Carey F. Combs, of Bristol, England, that 100 per cent of fatal cases under age 10 had pericardial involvement and 83 per cent were under age 20.

Despite the fact that he was able to detect pericardial involvement clinically in only 14 per cent of fatal cases at all ages, it was found post mortem in 53 per cent of fatal cases. The danger from pericardial damage does not lie in the mechanical difficulties but in the fact that it indicates that the entire heart is saturated with the infection.

With regard to earlier recognition of rheumatic infection, school medical services have never been utilized to their fullest potentialities as a means of case-finding. The British report that, as a result of co-ordinated attack on the problem of rheumatic infection in childhood, the incidence of endocarditis among school children in London declined from 2.0 per cent to 0.8 per cent over a 10-year period. Even allowing for stricter criteria with greater experience in diagnosis, considerable improvement is evident. School physicians and particularly school nurses have an opportunity to detect this disease in its incipency. Even the teachers could be instructed in the cardinal symptoms of rheumatic infection. At least they should be warned against punishing children with chorea for making faces at the teacher, an occurrence which came to my attention. The school medical service could act as a screen to detect early cases and refer them to their family physicians or to other agencies for treatment.

CORRECT DIAGNOSIS OF HERNIA IMPORTANT IN DRAFTED MEN

Pointing out that the presence of a hernia in men of selective service age is a deterrent to military service, Stephen A. Zieman, M.D., Chicago, declares in *The Journal of the American Medical Association* for Nov. 30 that the widespread prevalence of this condition in men of this age group necessitates a correct understanding on the part of the physician as to what constitutes a hernia.

Dr. Zieman says that an impulse perceptible on coughing or straining while the examining finger of a physician is in the external inguinal ring cannot be safely accepted as diagnostic of a hernia. He believes that the placing of the first, second, and third fingers over the inguinal region in such a manner that the index finger rests on the so-called weak spot is a more effective diagnostic method and is particularly helpful in borderline cases. Findings at the operating table have shown the method to be effective, he says. He also declares that straining is a better method for eliciting the essential diagnostic factor than is coughing.

FIFTEEN "NIGHT CRAMPS" CASES RELIEVED BY QUININE SULFATE

"Night cramps" were relieved in 15 patients by means of quinine sulfate, Harold K. Moss, M.D., and Louis G. Herrmann, M.D., Cincinnati, report in *The Journal of the American Medical Association* for Oct. 19.

The condition, which consists of painful spasms of muscles in the extremities, generally occurs in middle-aged and elderly persons while they are at rest. On the basis of successful reports in the literature of the use of quinine in certain rare muscular diseases, the authors tried quinine sulfate for this more common condition. A beneficial effect was noted in all cases, complete cessation of pain being obtained sometimes within a few hours.

Many patients continued without symptoms when the drug was discontinued or a placebo was substituted unknown to them. Others, however, showed repeated increase of symptoms on placebo treatment and remission when medication was resumed. Further investigation as to the mechanism of action of the drug is being pursued, the authors report.

Provisional Morbidity in Pennsylvania

October, 1940

Locality	Disease					Locality	Disease				
	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough		Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Aliquippa	0	0	14	0	0	New Castle	1	0	0	0	1
Allentown	3	68	4	0	59	New Kensington ...	0	0	3	0	4
Altoona	0	1	4	0	8	Norristown	0	1	2	0	13
Ambridge	0	0	0	0	0	North Braddock ...	0	0	0	0	0
Arnold	0	0	0	0	5	Oil City	0	0	1	0	6
Beaver Falls	0	1	3	0	11	Old Forge	0	0	0	0	0
Bellevue	0	1	2	0	9	Olyphant	0	0	0	0	0
Berwick	0	0	0	0	3	Philadelphia	1	510	108	11	379
Bethlehem	0	3	6	0	8	Phoenixville	0	0	0	0	0
Braddock	0	0	0	0	2	Pittsburgh	2	5	47	0	122
Bradford	0	1	1	0	3	Pittston	0	0	1	0	0
Bristol	0	0	0	0	0	Plymouth	0	0	1	0	3
Butler	0	2	1	0	3	Pottstown	0	80	0	0	0
Canonsburg	0	0	0	0	0	Pottsville	0	0	0	0	0
Carbondale	0	0	0	0	0	Reading	0	6	0	0	166
Carlisle	0	0	4	0	3	Scranton	0	0	1	0	2
Carnegie	0	1	0	0	9	Shamokin	0	0	0	0	0
Chambersburg	0	1	0	1	1	Sharon	0	443	0	0	4
Charleroi	1	0	0	0	1	Shenandoah	0	0	0	0	0
Chester	0	1	17	1	10	Steelton	0	0	1	0	19
Clairton	1	0	0	0	1	Sunbury	0	0	0	1	0
Coatesville	0	0	0	0	0	Swissvale	0	0	0	0	6
Columbia	0	0	1	0	3	Tamaqua	0	0	0	0	0
Connellsville	0	0	0	0	0	Taylor	0	0	0	0	0
Conshohocken	0	0	0	0	0	Turtle Creek	0	0	0	0	0
Coraopolis	0	0	0	0	0	Uniontown	0	0	0	0	4
Dickson City	0	0	0	0	0	Vandergrift	0	0	0	0	1
Donora	0	0	0	0	0	Warren	0	0	0	0	1
Dormont	0	0	0	0	0	Washington	0	1	3	0	4
Du Bois	0	91	1	0	0	Waynesboro	1	0	0	0	0
Dunmore	0	0	0	0	0	West Chester	0	0	0	0	0
Duquesne	0	0	3	0	2	Wilkes-Barre	2	1	0	0	0
Easton	0	0	0	0	0	Wilkinsburg	0	0	0	0	3
Ellwood City	1	0	7	0	0	Williamsport	0	2	3	0	2
Erie	1	101	3	0	44	York	0	0	5	0	14
Farrell	0	76	1	0	4	Townships					
Franklin	0	0	0	0	0	Allegheny County:					
Greensburg	0	0	1	0	1	Harrison	0	0	1	0	1
Hanover	0	2	0	0	5	Mt. Lebanon	1	1	1	0	3
Harrisburg	0	2	0	0	40	Stowe	0	0	0	0	0
Hazleton	0	1	0	0	1	Delaware County:					
Homestead	0	0	0	0	3	Haverford	0	2	1	0	33
Jeannette	0	0	0	0	0	Upper Darby	0	2	9	0	2
Johnstown	1	1	4	0	1	Luzerne County:					
Kingston	0	0	0	0	0	Hanover	0	0	1	0	0
Lancaster	0	1	8	0	38	Plains	0	0	0	0	0
Latrobe	0	0	0	0	0	Montgomery Coun-					
Lebanon	0	0	1	0	0	ty:					
Lewistown	0	0	0	0	3	Abington	0	9	0	0	13
McKees Rocks	0	0	0	0	0	Cheltenham	0	0	0	1	0
McKeesport	1	0	3	0	3	Lower Merion ...	0	1	1	0	8
Mahanoy City	2	0	0	0	0	Total Urban ...	20	1422	280	15	1100
Meadville	0	0	0	0	0	Total Rural ...	30	190	237	25	1143
Monessen	1	3	1	0	0	Total State ...	50	1612	517	40	2243
Mount Carmel	0	0	0	0	0						
Munhall	0	0	0	0	0						
Nanticoke	0	0	0	0	2						

EDITORIALS

NEW YEAR'S GREETINGS

Another year has passed, and what a year! What an intricate 12 months of fast and furious traveling, with organized medicine still riding the storms. In other words, we have had the advantage of a wonderful leadership. This was made possible by the unprecedented support given the officers of the State Society by the ever loyal membership.

The termination of 1940 finds the United States of America rapidly putting its house in order. Medical preparedness is the keynote of the hour with the county, state, and national societies.

Unity and harmony must prevail to make organized medicine sufficiently strong to meet all problems and questions in a manner satisfactory to the public interest and that of the medical profession.

Happy New Year!

NO RETREAT FOR MEDICINE

The flame-lit skies of bombed British towns can sometimes be seen at night from countries across the Channel. America, too, hears the rumble of the War God's chariot and his hot breath is felt by each of us. This is not strange when every paper in the land carries banner headlines on war and on our defense measures.

Reports are conflicting. The losses of the combatants fluctuate like the stock market and figures are high or low, depending on which side is telling the story. Our thoughts are pulled this way and that by propaganda. It is true that our sympathies lie with the democratic nations, but do not make the mistake of believing that therefore the dictator powers can have no influence over our destiny. Propaganda, we are told, is the most powerful weapon that can be wielded. It sneaks and crawls into the very mind of man or marches in to the tune of martial music. The democratic nations reach us by arousing sympathy; Hitler and his unholy brethren inspire us with terror and try to create the impression that they are invincible. Many are prone to fall under the hypnotic sway of

such suggestions and might then assume that a struggle is not even worth while.

Countless old legends are woven around a theme similar to the story of Achilles' heel. It is comforting to remember that there is always a weak point that can be reached, and when poise is substituted for hysteria we know that liberty must eventually conquer.

In a life-and-death struggle such as that now being waged by England, activities must be restricted to the bare necessities. Research goes on feverishly but in the destructive field of war machinery. Medicine goes on too, and we are even told of great discoveries in plastic surgery, wound therapy, and so forth, which evolved during or as a direct result of the last World War.

These too, however, must be considered as children of necessity. The greatest part of medicine has to be laid aside to be dusted off only after the peace treaty has been signed.

In the meantime our American physicians must carry a burden of responsibility not only for themselves but for those of their profession who are homeless and persecuted, for the harassed and overworked in the war zone, for the dead, and for that vast uncounted army of young men who would have become healers if fate had not called upon them to become killers.

We must not permit the fire glow from England to cause panic which will rout the ranks of medicine. We must continue to perform our everyday tasks with as much serenity as possible. We must not discard research as useless in a mad world, for the day will come to aid those who are torn and bleeding so that when the fire of destruction dies away, they may lift high the bright flame of liberty that burns undying in their hearts.

PASCAL BROOKE BLAND, M.D.

Dr. P. Brooke Bland, of Philadelphia, internationally known obstetrician and gynecologist, and emeritus professor of obstetrics at Jefferson Medical College of Philadelphia, died in Bryn Mawr Hospital at 9:45 a.m., Oct. 31, 1940, of a self-inflicted bullet wound. He was aged 65.

Dr. Bland was born at Monocacy (Berks County), May 9, 1875, a son of Caleb H. Bland and Harriet Amelia Bland. He received his early education in the private and public schools of Montgomery and Berks counties, and was an honor man and president of his class at Jefferson Medical College. His internship was served at Jefferson Hospital, 1901-1902, and from 1902 to 1915 he was assistant gynecologist at the hospital. He also served as private assistant to Edward E. Montgomery, M.D., then professor of gynecology at the college.

He took graduate work in Vienna, Berlin, Munich, Freiberg, Paris, and London before becoming instructor, demonstrator, and assistant professor of gynecology at Jefferson Medical College. He held his assistant professorship from 1915 to 1925, when he was named professor of obstetrics. His election as emeritus professor of obstetrics became effective June 5, 1937. Dr. Bland was also associate obstetrician and gynecologist-in-chief, Philadelphia Lying-In Hospital consulting obstetrician, Jefferson Hospital; consulting obstetrician, St. Joseph's Hospital, Philadelphia; and consulting gynecologist, Jeanes Hospital, Fox Chase.

Dr. Bland was a member of his county and state medical societies, and a Fellow of the A. M. A., the American College of Surgeons, and the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons; Diplomate of the American Board of Obstetrics and Gynecology; member of the Obstetrical Society of Philadelphia (former president); Fellow of the Royal Society of Medicine, London, Eng.; specialty regent and first vice-president of the International College of Surgeons, etc.

He was foreign corresponding member of the Royal Medical Society of Budapest. He was also a member of the Union League of Philadelphia, the Colonial Society of Pennsylvania, and the University and the Philadelphia Country Clubs. His medical fraternity was Alpha Kappa Alpha. He was a thirty-second degree Mason.

Dr. Bland was widely famed as a practitioner, teacher, and author in his chosen field of medicine. He wrote the *Textbook of Obstetrics for Students and Practitioners* published in 1935, *Gynecology, Medical and Surgical*, and *Practical Obstetrics*, and published numerous papers dealing with gynecology and obstetrics. His collection of old medical books is one of the finest in the United States.

Dr. Bland was married to Susan Lukens Montgomery, daughter of the late Edward E. Montgomery, M.D., in 1906. His widow, 2 daughters, and a son survive.

WILLIAM LAWRENCE ESTES, SR., M.D.



William L. Estes

Dr. William L. Estes, Sr., Bethlehem, distinguished surgeon and philanthropist, died at his home, Blue Hill Farms, Saucon Valley, Oct. 20, 1940, after a lingering illness. He was aged 85.

Dr. Estes was born on a plantation near Brownsville, Tenn., Nov. 28, 1855, a son of Albert Monroe and Marcia Burton (Owen) Estes. He attended Brownsville Academy, prepared for medical school at Bethel College, Russellville, Ky., 1872 to 1874, and was graduated from the University of Virginia Department of Medicine, Charlottesville, Va., in 1877. He received the honorary degree of A.M. from Bethel College in 1893. Dr. Estes received his second M.D. degree from the New York University Medical College in 1878, a necessary prelude to an internship in a New York hospital in those days. Following this he served a 2-year internship at Mt. Sinai Hospital, New York City.

Dr. Estes began the practice of medicine at Bethlehem in 1881, where he was on the medical staff of St. Luke's Hospital. Two years later he was appointed surgeon-in-chief of that institution, retaining this post until he retired in 1920. At the time of his death he was surgeon emeritus to St. Luke's Hospital. From 1886 to 1904 Dr. Estes was chief surgeon to the Lehigh Valley Railroad Company. During the World War he was chairman of the local Medical Examination Board.

St. Luke's Hospital Training School for Nurses, founded Dec. 1, 1884, 3 years after Dr. Estes had been called from New York, has improved steadily and is one of the best in the state. It was the third of its kind in the United States. When the board of trustees approved the recommendation for establishing St. Luke's Hospital Training School for Nurses, upon the recommendation of Dr. Estes, Miss M. I. Merritt, a graduate of the Bellevue Hospital Training School, New York City, and a lineal descendant of Florence Nightingale, was engaged as the first principal.

Since his retirement Dr. Estes had carried on his philanthropic work in connection with various social service groups in his community, especially the Family Welfare Association. In recognition of his outstanding civic achievements, Dr. Estes was awarded the B'nai B'rith bronze plaque for 1933 on Feb. 8, 1934, at a

public ceremony held in the Liberty High School auditorium, Bethlehem, given by the B'nai B'rith Sholom Lodge, Bethlehem. He was further honored in June, 1934, when he was awarded the honorary degree of Doctor of Science by Lehigh University.

Dr. Estes was a former president (1907) of The Medical Society of the State of Pennsylvania, of the Northampton County Medical Society, and of the Lehigh Valley Medical Association; a Fellow of the American Medical Association, the International Surgical Association, the American College of Surgeons, the American Surgical Association, the American Academy of Medicine, the New York Academy of Medicine, and an Associate Fellow of the College of Physicians of Philadelphia.

He was the author of *Treatment of Fractures*, published in 1900, and contributed a chapter on surgery of accidents in Keen's *System of Surgery*.

On Oct. 5, 1881, Dr. Estes was married to Jeanne Wynne, who died in November, 1903. Two sons, one of whom is William L. Estes, Jr., M.D., of Bethlehem, who succeeded his father as surgeon-in-chief of St. Luke's Hospital, and 3 daughters survive.

COL. THOMAS LEIDY RHOADS, M.D.

Col. Thomas L. Rhoads, retired, died Aug. 20, 1940, at his home in Boyertown, after a short illness. He was aged 70.

Colonel Rhoads was born at Boyertown, Apr. 10, 1870, a son of Thomas J. B. Rhoads, M.D., and Theresa (Fayette) Rhoads. He received his education in the Boyertown public and high schools, the Hill School, Pottstown, Maryland Military and Naval Academy, Oxford, Md., and Muhlenberg College, where he received the degree of A.B. He was graduated from Jefferson Medical College of Philadelphia in 1893, and was class valedictorian. His internship was served at Jefferson Hospital, Philadelphia (1893-1894), and he was assistant demonstrator of surgery at Jefferson Medical College (1894-1898).

After devoting 4 years to civil practice in Philadelphia, Colonel Rhoads entered the U. S. Navy in 1898, resigning at the close of the Spanish-American War. He resumed civil practice at Philadelphia and Boyertown (1898-1900). In April, 1900, he entered the U. S. Army as contract surgeon and was ordered to the Philippine Islands, where he was commissioned a first lieutenant.

In 1902 Colonel Rhoads returned to the United States and filled several assignments. He sailed for a second tour of the Philippine Islands in 1907 and was placed in charge of surgical work at the First Reserve Hospital and on the Board of Investigation of Tropical Diseases. In 1909 Colonel Rhoads returned to the United States. He was physician to President William H. Taft, and later served as personal aide to President Woodrow Wilson.

In 1913 Colonel Rhoads was transferred to Philadelphia, and in 1914 he went to the Panama Canal Zone. In 1916 he returned to the United States and was assigned to training for overseas duty. In May, 1918, he accompanied the 80th Division as division commander to France, and served with it until the Armistice was declared. He participated in the battles engaged in by the division, including the Somme offensive, St. Mihiel, Meuse-Argonne, and in defensive sectors. He was cited during the Meuse-Argonne battle. In 1919 he returned to the United States. He was advanced to the rank of colonel Oct. 4, 1926.

In 1927 Colonel Rhoads again sailed for the Philippine Islands, returning to the United States in December, 1929. He took over several assignments and retired May 21, 1931.

He was a member of his county and state medical societies and a Fellow of the A. M. A.

In 1899 Colonel Rhoads was married to Frances Naomi Kohler, of Allentown, who died in 1904. A son survives.

As stated by the *Boyertown Times*, "Death closed a brilliant career, marked with distinguished services in both the U. S. Army and Navy, at home and abroad, in peace time and in 2 wars, for a period of 32 years."

See "A State-Wide Invitation" on page 497, also "Remitting County and State Society Dues of Members Absent in Military Service" on page 501.

INDUSTRIAL HEALTH CONGRESS TO DISCUSS DEFENSE PROBLEMS

"Industrial health is of exceptional interest at this time when national preparedness depends so greatly on industrial production," *The Journal of the American Medical Association* for Nov. 23 says in an editorial discussing the program for the Third Annual Congress on Industrial Health, to be held at the Palmer House, Chicago, Jan. 13 and 14, 1941.

"This will be the third of these meetings sponsored by the Council on Industrial Health of the American Medical Association," *The Journal* continues. "They are designed to acquaint the physician and others with the rapidly expanding importance of preventive medicine and surgery applied to industrial organization.

"Since every man hour of production is vital at this time, the program of the congress is intended to be as helpful as possible to physicians called on to control those factors which in the past have contributed greatly to the incidence and costs of industrial absenteeism. In the field of trauma the hand and the eye have proved to be particularly vulnerable. Symposia have therefore been developed to present the best current opinion on the management of these costly forms of industrial disability. Of the occupational diseases, dermatitis has long been recognized as the most troublesome. A series of demonstrations has been planned to include discussion of the criteria for diagnosis of industrial cutaneous disorders as well as accepted methods for the treatment and placement of susceptible employees.

"Among nonoccupational diseases the common cold and influenza annually exact an enormous toll through loss of earning capacity and disruption of production schedules. This problem will also be discussed from the point of view of the essential economics, the possibilities of control through air-conditioning, and the rôle of the physician in industry and in private practice.

"Since many able-bodied men will probably be inducted into military service, industry may need to recruit workers from the physically handicapped and from the aging groups. These developments, of enormous medical and social significance, will be featured at the congress. Assignment of this type of worker into industry with proper consideration of physical ability and mental aptitude will be fully considered.

"Concern has been expressed about the availability of trained personnel in industrial health, the subject of an early resolution by the Committee on Medical Preparedness of the American Medical Association. A session will be devoted to determining what shortages exist and the best means for correction. It is hoped that concrete proposals for better training for the industrial nurse, the industrial hygienist, the safety engineer, and the physician in industry may grow out of these discussions. A means will also be provided for the interchange of experience and results of recent activity by committees on industrial health in state and county medical societies."

ALCOHOL IN BLOOD NOT A REAL CRITERION OF DRUNKEN DRIVING

In view of the great variation in tolerance to alcohol, standards for the control of drunken driving should be concerned with the effect of alcohol on individual driving skill rather than be based on a particular

concentration of alcohol in the blood stream, Henry Newman, M.D., and Edwin Fletcher, San Francisco, maintain in *The Journal of the American Medical Association* for Nov. 9.

Pointing out the need for tests which will establish the presence of intoxication in drivers according to a uniform definition, the authors suggest: "A rational procedure would seem to be the setting up of minimum standards of skill to be required of any person before he be allowed to drive a motor vehicle. A driver suspected of intoxication could then be retested, and if his performance fell below the accepted standard, and presence of alcohol in his blood was proved, a conviction should result regardless of the actual blood concentration found. Thus any person who so lowered his driving efficiency below the minimum accepted standard would be convicted, without penalizing other individuals of greater skill whose only offense consisted of the presence of alcohol in their blood stream.

"Public sentiment is definitely against the drunken driver but not against the drinking driver. Thus any attempt to control the problem by obtaining convictions on the sole basis of blood alcohol concentrations such as the 150 milligrams per hundred cubic centimeters advocated by the National Safety Council must fail for the reason that such action would constitute the punishment of drinking rather than of drunken driving."

The 2 men report tests which illustrate that the amount of alcohol in the blood is a poor indicator of drunkenness as manifested by loss of driving skill. "The important matter," they declare, "is not to carry over the apparent tendency for individuals with the highest blood alcohol concentrations to exhibit the greatest loss of skill into the arbitrary setting up of a fixed blood alcohol concentration at which a majority of individuals are intoxicated to apply equally to all individuals. If any blood alcohol concentration is to be accepted as absolute evidence of intoxication in the legal sense, it is essential that it be one at which experience has shown that no individual, regardless of his inherent or acquired tolerance, would be clinically adjudged sober."

BUILDING HOSPITALS

"The impression prevails and in certain circles is widely promoted that hospital construction has halted during the depression," *The Journal of the American Medical Association* for Nov. 16 says. "True, many of the sources from which income for hospital building is drawn in prosperous times have lessened their flow. However, the WPA in a 'Report of Work Completed, 1935-1940' relates that during this period 132 new hospitals have been constructed, 1592 have been reconstructed or improved, and additions have been made to 222. Up to June, 1939, the PWA in its report 'America Builds,' page 143, states that 'PWA has provided 121,760 beds in hospitals costing \$367,659,880.' The technical committee which reported to the National Health Conference, and from which report much of the impression has proceeded, estimated that a normal increase in hospital beds should be 25,000 a year. Since the PWA alone provided 121,760 beds in 5 years, it should be evident that the alarm of the National Health Conference with regard to hospital construction is somewhat lacking in justification."

TUBERCULOSIS ABSTRACTS

A Review for Physicians

PREPARED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

Published through the co-operation of the Pennsylvania Tuberculosis Society
and The Medical Society of the State of Pennsylvania

SIXTEEN and one-half million men have registered for military service. Almost one million of them have thus far been selected. According to news reports, the men will be subjected to a hardening process to the point where they will be able to march 30 miles per day bearing full equipment. It is highly important that among them there shall be none who, because of a tuberculous focus, will crack under the strain. So that costly lessons learned during the World War may not go unheeded, Spillman in an article in the *Journal of the American Medical Association* summarizes the methods employed to discover tuberculosis, calculates the enormous cost of service-acquired tuberculosis, and discusses what should be done to safeguard the nation's manpower and financial resources against the enemy which bores from within.

TUBERCULOSIS AND MILITARY SERVICE

The World War is 22 years behind us, yet the federal government pays in compensation for tuberculosis that originated in service about \$3,000,000 each month. Analysis of voluminous and complicated federal reports dealing with service-acquired tuberculosis yields the following approximate figures:

Cost of vocational training	\$129,000,000
Insurance	130,000,000
Compensation	600,000,000
Hospital care	100,000,000
	\$959,000,000

The total number of men compensated for tuberculosis in 1922 (it is not feasible, from the annual reports, to run the figures back past 1922) was 36,600. In 1939 the total number was 55,634, including 1947 deaths for that year.

The cost of taking a man who has tuberculosis into the service cannot be accurately calculated because of many factors that are still unknown and costs that are not apparent, but the author estimates that the figure would be somewhere around \$10,000 per man to date, certainly not less than \$7500, to which should be added at least \$50 a month for the rest of the man's life and compensation for his dependents after death.

Study of army procedure during the World

War leads to the conclusion that the methods employed for the detection of tuberculosis were inadequate. This does not detract from the stature of that distinguished army surgeon, Colonel George E. Bushnell, adviser to the Surgeon General on all matters pertaining to tuberculosis. It was the consensus of experts in 1917 that adult exogenous infection with tuberculosis is rare, that infection in childhood is well nigh universal, and that every infection confers an immunity to anything short of massive doses of bacilli in later life. By the same token, adult tuberculosis was held to result from a reactivation of the antecedent infection. It was thought that for every soldier who had *incurred* tuberculosis as a result of military service, 10 others had *brought the disease with them* into the army. Present-day experience does not uphold this belief. To cite at random just one of numerous communications, Diehl and Myers prove the development of 6 cases of tuberculosis in one college fraternity a year after one of its members was found to have a positive sputum, and the development of tuberculosis in a girl several years after her sorority roommate was found to have tuberculosis.

The problem at hand is this: How can the recruit who already has active tuberculosis be

recognized so that he may be rejected for the protection of himself and others? Colonel Bushnell trained a large number of highly competent diagnosticians, to whom he imparted the significance of the post-tussal moist râle and the technic of eliciting it. The patient is instructed to cough gently at the end of deep expiration. When he inhales after the cough, the râle is heard. The presence of persistent moist râles was the criterion for determining the existence of tuberculosis. Several prominent physicians and radiologists tried to induce the Surgeon General to make the radiograph the decisive factor in the diagnosis of pulmonary tuberculosis. The practical difficulties in the way of the adoption of the radiograph were, however, insuperable, according to Colonel Bushnell, in which conviction he was supported by a special committee of the Council of National Defense which investigated the question. Among the difficulties were the enormous cost of photographing, the impossibility of obtaining a sufficient number of plates (made of glass and most of it imported from Belgium), and the lack of trained radiologists.

Draft boards set up in every community added to the difficulty. These boards included local physicians who were supposed to reject draftees with disqualifying defects. While most draft boards functioned honestly and intelligently, there is evidence in official publications that, far from weeding out the manifestly tuberculous, some boards actually concentrated tuberculosis cases at some of the camps, thinking that they would benefit by change of climate and by army life. In the re-examination of 19,827 men at Camp Kearny, for example, 853 cases of tuberculosis (4.83 per cent) were discovered.

With this background, what should our procedure be in the present situation? Of the available methods for the mass diagnosis of tuberculosis among recruits, physical examination and radiography need to be considered on a basis of relative merits. Evidence of the inadequacy of physical examination to detect tuberculosis is overwhelming. The last word as far as the army was concerned in 1917 was that "the only trustworthy sign of activity of apical tuberculosis is the presence of persistent moist râles." In the light of present-day knowledge this sign is worth only about 12.5 per cent. In spite of the ac-

knowledge skill of the army examiners of 1917, only about one-eighth of the actually existent clinically significant tuberculosis was detected.

The radiograph should be the criterion in weeding out tuberculosis in today's mobilization. In what form? Fluoroscopy gives no record and is highly subjective. As demonstrated by the experience of a large life insurance company, fluoroscopy in skillful hands may serve as an alternative to a prohibitively expensive routine of roentgenography, but even this company has, since 1936, been making routine roentgenograms of the chest of every applicant for employment.

The paper roentgenogram is speedy and convenient and cheaper than celluloid. Radiologists as a whole do not favor the paper radiogram while tuberculosis workers are enthusiastic over it. If celluloid films were available on rolls like the paper rolls they would undoubtedly be preferred. Paper roentgenograms are vastly preferred to no roentgenograms, but celluloid would be preferred if the author were given a choice.

Photography of the fluoroscopic screen is another possibility. But if this method, known as fluorography, is no more than 90 per cent efficient as compared with the standard celluloid roentgenogram, as the author believes, the 10 per cent shortage in diagnosis would cost a great deal of money in compensation later. Fluorography is today a highly promising method, but awaits further improvements before it can compete with celluloid roentgenograms.

For radiography there are many kinds of apparatus varying in price and capacity. What is most important, however, is the skill and knowledge of the operator.

The author's final conclusion is:

"A normal chest roentgenogram should be the criterion of acceptance in a future mobilization, including the proposed draft for training, and it should be made and reported before the recruit has spent a night away from his own roof to obviate a repetition of the claims for aggravation of pre-existing tuberculosis which occurred during and after the World War."

The Value of Radiography in Detecting Tuberculosis in Recruits, Ramsay Spillman, M.D., Jour. of Amer. Med. Assn., Vol. 115, No. 16, Oct. 19, 1940.



OFFICERS' DEPARTMENT

WALTER F. DONALDSON, *Secretary*
8104 Jenkins Arcade
Pittsburgh, Pa.

MORE FUNDS NEEDED

As of Sept. 15, 1938, more than 4000 Pennsylvania physicians had agreed to render medical service in the office and the home to nearly one million Pennsylvanians, recipients of varying forms of State Public Assistance. Since that date the service plan adopted, i.e., "free choice, personal relationships, professional management, and fee basis for payment," has not been altered in principle, although additions expanding the professional service have been made without proportionate increases in the state funds for the payment of same.

From time to time reports from county medical advisory committees have appeared in this department indicative of growing dissatisfaction on the part of participating physicians. Experience has been extensive; the service has been faithfully and expertly rendered to the satisfaction of the sick and injured among persons on direct relief, and to several classes of pensioners, such as widows and the blind.

At this time we publish illuminating reports which we consider of great value, coming as they do at the end of 2 years' close relationship in a form of sickness service which is sponsored and paid for by the state and managed by the various county and state healing arts groups working with their respective county and state Public Assistance boards. Please note that the appended reports cover different sections of the state.

Mercer County Experience

Our advisory committee in the Public Assistance medical service program in Mercer County has maintained records which afford much of interest to the student of socio-medical economics. We regret that we cannot publish their tabulations, but it is highly interesting to note that Mercer County's experience readily substantiates the comments from other counties throughout Pennsylvania as made during the 1940 House of Delegates meetings of The Medical Society of the State of Pennsylvania.

It was commonly claimed that while the total number of persons on direct relief due to unemployment has been materially reduced in Pennsylvania during recent months because of national defense and other sources of increasing employment, the fact remains that the

physically handicapped, chronically ill, and persons of low resistance not desirable for re-employment continue their requests for medical service on an increasing scale as the knowledge of the existence of the service and expressions of satisfaction with it continue to spread.

For example, the case load in Mercer County in January, 1940, was 2454, and in that month the rate of reduction of professional fees for services to Public Assistance recipients was down to 53 per cent of those approved by our committee, while in August, 1940, the case load was 2785 and the percentage of reduction down to 35 per cent.

It should also be noted that the State Public Assistance Department allocated \$1350 for the entire program in Mercer County for the month of January, 1940, and \$1045 for the month of August—a 22 per cent reduction made in spite of the fact that the case load in August, as in the preceding month of July, was 12 per cent to 15 per cent higher than in the preceding January and February.

Allocations and Proration of Bills in Philadelphia County

The Medical Relief Committee of the Philadelphia County Medical Society has been confronted with many problems since it started working in September, 1938. The problem of insufficient allocations of money to our county, which necessitates the proration of bills, was not with us in the beginning. In spite of the fact that Philadelphia County was only allowed 14 cents for medical care, per person on relief, while the other counties of the state were receiving as high as 20 cents per person (average 16 cents), we did not have to prorate any bills for the first 4 months.

PRORATIONS IN PHILADELPHIA COUNTY SINCE BEGINNING OF PRESENT MEDICAL RELIEF PROGRAM ON SEPT. 15, 1938

1938		1939		1940	
Month	Proration	Month	Proration	Month	Proration
September	100%	January	69.5%	January	72%
October	100%	February*	29.4%	February	81%
November	100%	March	70%	March	66%
December	100%	April	80%	April	48%
		May	73%	May	35%
		June	88%	June	31%
		July	99%		
	Average	August	100%		Average
	100%	September	100%		55.5%
		October	91%		
		November	81%		Grand Average
		December	88%		77.2%
			Average		
			80.6%		

In February, 1939, the hospital clinics were introduced into the program, but no increase in allocation was made to cover this additional service. As a result of this, and also because an epidemic of influenza struck

* Hospital Clinics admitted to program this month.
(In this table proration expresses cents paid on the dollar.
—W. F. D.)

the Philadelphia area at the same time, a serious shortage of money occurred that month. Immediate protest was made to the Department of Public Assistance and the allocation was quickly raised to 16 cents per person. This eased the situation somewhat for the time being.

In May, 1939, we went to Harrisburg to confer with the Department of Assistance and succeeded in having the allocation raised to 20 cents per person. In addition to this, it was thought wise to distribute the money throughout the year according to the seasonal variation of acute diseases. This was an attempt to match up the supply and demand more perfectly by having higher allocations in winter months and lower ones during the healthy summer season.

The plan was worked out as follows:

BASIS OF ALLOCATION FOR 1940
(Averaging 20.1c per month.)

January	27c	July	16c
February	26c	August	16c
March	25c	September	17c
April	21c	October	17c
May	18c	November	18c
June	16c	December	25c

Following these changes the prorations were very moderate and everything ran smoothly along this line for 9 months (see table).

In February, 1940, the relief rolls in Philadelphia began to show a marked reduction in the number of people receiving assistance. This was due to the fact that the persons who were able and physically fit to work either found private employment or were put on the WPA. As a result of this change, our carefully worked out basis of allocation was immediately thrown out of balance.

The persons on Old Age Assistance, Blind Pension, and Mothers' Assistance have been constantly increasing. On the general assistance rolls the proportion of physically unfit is higher. The number of persons seeking medical care has not appreciably decreased in recent months, in spite of the fact that the allocations of money for their care have shrunk in proportion to the general relief load.

At a meeting held in Harrisburg in August, 1940, this condition was not appreciated, as the April, May, and June invoices had not been balanced at that time. We were making an appeal for more money and also for amplification of the program, but as our record of prorations up to that moment was better than 85 per cent (even including the fatal month of February, 1939, when the proration was 29 per cent) we did not have much success.

Another meeting is scheduled to be held in Harrisburg early in December, at which time this matter will be thoroughly discussed.

We communicated with the Department of Public Assistance by letter on Nov. 14, in which we informed them of the serious condition which has developed in Philadelphia and made an appeal for immediate help. As yet we have received no reply. I feel certain that satisfactory adjustments will be made to take care of this situation, but do not know how quickly they can be put into operation.

JAMES F. SCHELL, M.D., *Chairman.*

A Progress Report

The Subadvisory Committee of the Allegheny County Medical Society, in order to learn the attitude of the physicians who are actually delivering Public Assistance medical care throughout the county, recently mailed a questionnaire to every physician who has ever

TWELVE MONTHS' EXPERIENCE IN TYPICAL PENNSYLVANIA PUBLIC ASSISTANCE MEDICAL SERVICE PROGRAM

(A summary of the Public Assistance Medical Service Program in Allegheny County from Sept. 1, 1939, to Sept. 1, 1940, showing the costs and visits per patient by physicians, the cents per person on relief necessary to cover all bills of the entire healing arts group, and the cents per person on relief allocated by the state, with the subsequent prorations and the morbidity among PA participants.)

Month	Costs per Patient for Physician's Service Only	Number of Physician's Visits per Patient	Amount in Cents Necessary to Cover All Bills	Amount in Cents Provided to Cover Service of Physicians, Dentists, Nurses, Etc.	Prorations (Physicians' Bills Reduced When Paid)	Morbidity (Percentage of Persons on Relief Treated by Physicians)	Persons on Relief
1939							
September	*3.05	2.2—	†24.5	†20	‡23%	4.6	168,647
October	3.20	2.2+	28.7	20	36%	5.	152,312
November	3.05	2.1—	31.7	20	44%	6.	133,876
December	3.16	2.1+	32.3	23	36%	6.1	123,963
1940							
January	3.09	2.1+	38.5	27	41%	7.5	124,332
February	3.04	2.1+	36.	26	37%	7.5	124,548
March	2.96	2.1+	36.	25	40%	7.6	127,688
April	2.90	2.	34.3	21	50%	6.6	126,666
May	2.87	2.	33.5	18	59%	6.3	117,045
June	2.94	2.1+	30.3	16	61%	5.7	112,473
July	2.81	2.1	30.9	16	64%	5.9	112,467
August	2.70	2.1—	30.8	16	63%	6.2	110,771
Average	2.98	2.1	33.3	20.7	46%	6.2	

* Cost of physicians' approved invoices only, before proration.
† All bills, healing arts group, without proration, in cents per person on relief.
‡ Percentage of (reduction) proration of all bills of healing arts group except pharmacists (not subject to proration).
Reprinted from *Pittsburgh Medical Bulletin*, Dec. 7, 1940.

participated in the program from the time of its inception.

Forty-five per cent replied, of whom ninety per cent were not satisfied with the present program; but that same ninety per cent expressed willingness to struggle along in an attempt to retain leadership and to improve the program. It was indeed stimulating to your committee to realize that ninety per cent were willing to support our committee in its work.

Your committee, after carefully reviewing all replies to the questionnaire, after compiling and studying the costs per patient, the visits per patient and the percentage of morbidity under the program in Allegheny County, September, 1939 to August, 1940, and after studying the plans for the medical care of the indigent now functioning in other states, does not hesitate to advise that the plan at present in effect in Pennsylvania is the best in existence, and that the only thing wrong with it is inadequacy of the appropriations made by the State Department for its support.

If any increase is to be obtained, it must be through contacting our state legislators and persuading them that these facts just related are true, and that to give the members of the healing arts group a fair recompense for their work, 35 cents per person on relief should be appropriated each month. If the morbidity should happen to be low one month and there is a small surplus, it should be allowed to accumulate from month to month to cover a larger possible morbidity during the biennium, at the end of which any remaining surplus would revert back to the state.

If the 250 participating physicians who promised by their questionnaires to contact their state representatives and state senator before the meeting of the state legislature in January, 1941, *are faithful to that promise*, the wonderful medical care that is now being administered to the indigent will continue, and the physicians, dentists, nurses, and clinics delivering this service should receive at least one-half their usual fees without proportion or reduction.

CHARLES C. RINARD, M.D., *Chairman.*

DUES ARE DUE JANUARY FIRST

County medical society secretaries have been supplied with triplicate receipts for 1941 dues, and members are urged to pay promptly. Although the delinquent date for State Society dues is not until Mar. 31, time, energy, and expense on the part of component society secretaries will be conserved if the members pay their dues early (also see letter on page 501).

A STATE-WIDE INVITATION

The Committee on Scientific Work of our State Medical Society will hold its first meeting in Harrisburg on Tuesday, Feb. 4, 1941, at

which time preliminary plans will be made for the scientific program for our 1941 session to be held in Pittsburgh next Oct. 6 to 9.

Dr. Walter M. Bortz, First National Bank Bldg., Greensburg, chairman, solicits, for consideration by the committee, proposals of papers on subjects appropriate for presentation to general practitioners of medicine.

Dr. George J. Kastlin, Jenkins Bldg., Pittsburgh, chairman of the Scientific Exhibit, is also ready to have his committee consider the value and the appropriateness of proposed scientific exhibits.

It is hoped that proffers will be received by both Drs. Bortz and Kastlin from members of the society over widely scattered sections of the state.

REPORTING PNEUMONIA CASES TO PNEUMONIA CONTROL DIVISION, STATE HEALTH DEPARTMENT, HARRISBURG

To President, Secretary, Chairman of Committee on Pneumonia Control, and Editor of Component County Medical Societies.

Sufficient time (12 months) having elapsed to analyze the reporting of pneumonia cases and pneumonia deaths by counties and by councilor districts, we now report to the representatives of each county medical society. In the _____ Councilor District, to which your society belongs, the average per cent of pneumonia deaths *reported* to the Pneumonia Control Division as compared to the actual number of pneumonia deaths occurring in the same councilor district was _____ per cent. From your county alone _____ per cent were reported.

Is it not obvious that physicians in your county accepting, through the Health Department, free service for pneumonia typing, chemotherapeutic agents, and specific pneumonia sera are not co-operating adequately with the department to the limited extent requested; namely, filling out the simplified card distributed with the aforementioned therapeutic agents, which cards *are also available* for reporting the pneumonia cases able to pay?

Counties with 300 physicians therein are reporting 70 per cent of cases, while other counties of similar size report only 10.73 per cent. Counties with 18 physicians report as many as 57 per cent, while counties with a similar number of physicians report only 13 per cent.

Please discuss the subject informally and quote the figures at all meetings of your society and in your society's publication.

We wish to express gratitude for past co-operation with our commission.

EDWARD L. BORTZ, *Chairman,*
Commission for the Study of
Pneumonia Control.

Dec. 10, 1940.

WHO AND WHAT ARE OUR DISTRICT CENSORS?

What?

Constitution—Article VIII.—Officers

SECTION 1.—The officers of this society shall be a president, 4 vice-presidents, a secretary, a treasurer, an assistant secretary, 12 trustees, who are also councilors, and as many district censors as there are component county medical societies.

By-Laws—Chapter III.—Councilor Districts

SECTION 2.—Each councilor district shall have a separate board of censors. The board shall be formed by the House of Delegates of this society electing one censor from each component county medical society in the councilor district. Each component county medical society is requested to present to the House of Delegates for its consideration the name of a suitable member for district censor.

SECTION 3.—They shall consider and dispose of all questions affecting the principles of medical ethics that may be referred to them, either by a component county medical society or by this society.

Many county medical societies assume that the day they nominate their district censor their nominee begins his term of office. However, he becomes an officer of The Medical Society of the State of Pennsylvania only after his election as a district censor by the House of Delegates to serve for the following 12 months.

Who?

FIRST COUNCILOR DISTRICT

Philadelphia County—W. Burrill Odenatt, Philadelphia.

SECOND COUNCILOR DISTRICT

Berks County—Harry D. Lapp, Reading.
Bucks County—William G. Moyer, Quakertown.
Chester County—U. Grant Gifford, Kennett Square.
Delaware County—John B. Klopp, Chester.
Lehigh County—George F. Seiberling, Allentown.
Montgomery County—Philip J. Lukens, Ambler.

THIRD COUNCILOR DISTRICT

Carbon County—Clinton J. Kistler, Lehighton.
Lackawanna County—J. Norman White, Scranton.
Monroe County—J. Anson Singer,* East Stroudsburg.
Wayne-Pike County—Arno C. Voigt, Hawley.

FOURTH COUNCILOR DISTRICT

Columbia County—Edward L. Davis, Berwick.
Montour County—Horace V. Pike, Danville.
Northumberland County—Samuel L. Savidge, Northumberland.
Schuylkill County—James A. Lessig, Schuylkill Haven.

FIFTH COUNCILOR DISTRICT

Adams County—Harry M. Hartman, Gettysburg.

Cumberland County—Newton W. Hershner, Mechanicsburg.

Dauphin County—Edwin A. Nicodemus, Harrisburg.

Franklin County—Frank S. Sollenberger, Waynesboro.

Lancaster County—Horace C. Kinzer, Lancaster.

Lebanon County—Walter H. Brubaker, Lebanon.

Perry County—Robert R. Stoner, New Bloomfield.

York County—Francis R. Wise, York.

SIXTH COUNCILOR DISTRICT

Blair County—Carey C. Bradin, Tyrone.

Centre County—Peter H. Dale, State College.

Clearfield County—George B. Kirk, Kylertown.

Huntingdon County—William B. West, Huntingdon.

Juniata County—Isaac G. Headings, McAlisterville.

Mifflin County—Robert T. Barnett, Lewistown.

SEVENTH COUNCILOR DISTRICT

Clinton County—Saylor J. McGhee, Lock Haven.

Elk County—Samuel G. Logan, Ridgway.

Lycoming County—Wesley F. Kunkle, Williamsport.

Potter County—George E. Dorman, Austin.

Tioga County—Harry Williams, Elkland.

EIGHTH COUNCILOR DISTRICT

Crawford County—Herman H. Walker, Linesville.

Erie County—Orel N. Chaffee, Erie.

McKean County—W. Blair Mosser, Kane.

Mercer County—Harvey E. Massy, Sharon.

Warren County—Erwin S. Briggs, Warren.

NINTH COUNCILOR DISTRICT

Armstrong County—Thomas N. McKee, Kittanning.

Butler County—Harry P. St. Clair, Butler.

Clarion County—Byron P. Walker, West Monterey.

Indiana County—Joseph C. Lee, Indiana.

Jefferson County—Hollister W. Lyon, Punxsutawney.

Venango County—Paul R. Cunningham, Franklin.

TENTH COUNCILOR DISTRICT

Allegheny County—David P. McCune, McKeesport.

Beaver County—Daniel B. Suffoletta, Midland.

Lawrence County—John Foster, New Castle.

Westmoreland County—Thomas St. Clair, Latrobe.

ELEVENTH COUNCILOR DISTRICT

Bedford County—William E. Nycum, Everett.

Cambria County—John W. Barr, Johnstown.

Fayette County—George H. Robison, Uniontown.

Greene County—Jesse H. Hazlett, Waynesburg.

Somerset County—Charles J. Hemminger, Somerset.

Washington County—Charles L. Harsha, Canonsburg.

TWELFTH COUNCILOR DISTRICT

Bradford County—Rodney L. Stedje, Sayre.

Luzerne County—Herbert B. Gibby, Wilkes-Barre.

Susquehanna County—Franklin A. Stiles, Great Bend.

Wyoming County—William J. Llewellyn, Nicholson.

* Deceased.

COMMITTEE ON MEDICAL
PREPAREDNESS

To the President and Members of the Board of Trustees:

The following is a brief report of activities and progress from Sept. 30, 1940, the date when your board and the 1940 House of Delegates approved our activities up to that time, as well as the projected activities of our committee:

Under date of Oct. 12, 1940, a printed letter was addressed to the president, secretary, and editor of component county medical societies and to all the members of all county Committees on Medical Preparedness reported at that time. (All county medical societies have since announced their preparedness committees.) This letter submitted reasons for the selection and recommendation to Governor James of examining physicians to draft boards without opportunity to consult the 3 physicians recommended to each draft board for the Governor's consideration in the selection of one. This letter with full explanation was published in the November PENNSYLVANIA MEDICAL JOURNAL on page 217.

As a result of this letter and a multigraphed letter dated Oct. 22 to the same county representatives, the total number of responses from Pennsylvania physicians to the A. M. A. medical preparedness questionnaire was considerably increased.

On the back of the printed letter of Oct. 12 appeared a sample of a preparedness questionnaire as arranged by our committee for retention by component county medical societies.

COUNTY PRE-
PAREDNESS QUES-
TIONNAIRES

This questionnaire appears in the December JOURNAL. It was adopted for use by the following county

medical societies: Adams, Allegheny, Beaver, Blair, Bradford, Cambria, Carbon, Centre, Chester, Columbia, Crawford, Cumberland, Dauphin, Delaware, Elk, Fayette, Indiana, Juniata, Lehigh, Lycoming, McKean, Mercer, Mifflin, Northampton, Perry, Philadelphia, Potter, Somerset, Venango, Washington, Wayne-Pike, and Wyoming. Of these 32 counties only Allegheny, Cumberland, Delaware, Fayette, and Philadelphia mailed their own. To the entire membership of the other county societies mentioned, the questionnaire was mailed to each individual member by our committee through the facilities of the secretary's office. There remain 28 counties that have not accepted this offer of our committee, and the assistance of the councilors in person and through their executive assistants will be greatly appreciated by our committee in its endeavor to have this county questionnaire promptly adopted by all county medical societies (see page 370, December PENNSYLVANIA MEDICAL JOURNAL.

It was deemed wise that each county medical society should possess this information, inasmuch as final recommendations regarding qualifications of the physicians of the county for military, industrial, or community service in the event of a national emergency could best be advised by the county preparedness committees. The response of the membership to this questionnaire was much more satisfactory than the response to the equally important A.M.A. questionnaire.

Beginning Nov. 8, typewritten letters dealing specifically with the problem of the A.M.A. questionnaire in each county were distributed. In this letter our committee was able to report to county preparedness committee chairmen and county society officers, including editors, that we were then in possession of the names

and addresses of all the physicians in Pennsylvania, county society members and nonmembers, who had not as of Oct. 21 completed and returned the A.M.A. preparedness questionnaire distributed early in August to 13,422 Pennsylvania physicians.

We later received from the A.M.A. the names and addresses of those Pennsylvania physicians whose completed preparedness questionnaires had PROGRESS IS not been returned to the A.M.A. as of SLOW Nov. 21. Since the latter date letters to county society representatives have included such information and suggestions as may be found in quotations below taken at random from communications to 7 societies. To all county societies that have requested similar information (20 in number), same has been forwarded, and as rapidly as possible the entire list will be covered.

The Pennsylvania Preparedness Committee recently reported to Chairman _____ of the _____ County Preparedness Committee that on Oct. 21 _____ members of the _____ County Medical Society had failed to complete and forward the A.M.A. preparedness questionnaire mailed to all Pennsylvania physicians early in August, 1940. The State Preparedness Committee now reports that on Nov. 21 this number has been reduced to _____. Why do we progress so slowly?

Chairman _____ or the secretary of our society will have at the December meeting the names of the members who have not completed the form. Any member desiring to have his name removed from that list before our December meeting should request of either Chairman _____ or Secretary _____ the necessary form and envelope addressed to the A.M.A.

It should be remembered that regardless of age or physical condition all the physicians in _____ County are requested as a patriotic duty to thus help in a nation-wide survey designed to prepare in advance for adequate medical service under military or civilian sponsorship during any national emergency that may arise.

"The medical service of a training program, although essential to national preparedness, possesses none of the glamour of the same service during actual military operations; it is, however, equally important. Indeed, military training may, through the thoroughness of its preparation for war, materially assist in preventing the necessity of participation in military operations. Physicians as a group will not be exempt from conscription for military training and service," so speaks Surgeon General Magee of the U. S. Army no later than Nov. 30, 1940.

		A.M.A. Questionnaires not Returned			
*County	Chairman	By Oct. 21	By Nov. 21		
Armstrong	Hugh I. Stitt, Kittanning	21 members	15 members		
Centre	Peter H. Dale, State College ..	4	"	3	"
Elk	Robert C. Simpson, Ridgway	5	"	5	"
Jefferson	Guy M. Musser, Punxsutawney .	7	"	7	"
McKean	William G. Hogan, Bradford	13	"	12	"
Mercer	Harry W. Millikin, Sharon ...	33	"	11	"
Warren	Hilding A. Bengs, Warren	19	"	14	"

As a result of the foregoing efforts, the percentage of Pennsylvania physicians, members and nonmembers, returning this questionnaire has been increased approximately as follows:

September 21	50%
October 21	59%
November 21	66%

By Dec. 21 we have every reason to believe it will be 75 per cent; and by our final effort, which will consist of an individual letter to each remaining Pennsylvania physician, we hope by Jan. 1 to have increased this percentage to 90 per cent, which is probably the ultimate.

The final effort referred to will necessitate the preparation and mailing under first-class postage of, we fear, a thousand letters to the remainder of our **HELP CUT COSTS** more than 9000 members, and 2000 letters to the remainder of the 4000 nonmember physicians.

Our duties have included other forms of co-operation with the Preparedness Committee of the American Medical Association—the provision of lists of qualified physicians throughout the state under various technical headings and a few responses to confidential requests for information received from army medical officers through the office of the ex officio member of our committee.

It is apparent within the past week that the policy as originally announced by the Washington, D. C., authorities regarding the ultimate leadership of **BOARD REPLACEMENTS** of Induction Boards is now being introduced. It will be remembered that the National Defense Commission stated that appointees to Induction Boards from among civilian physicians may be headed by Regular Army medical officers or members of the Medical Reserve Corps. It is to be hoped that physicians appointed to Induction Boards, noting replacements within a very few weeks by local physicians who are members of the Medical Reserve Corps, will understand that this is in line with the policies of the medical corps surgeon.

Our committee roughly estimates that up to the present time 123 Pennsylvania physicians have been called to service or are now on **IN SERVICE BY 1942** *extended active duty* in the Army or Navy. Of this number, approximately 37 per cent are members of our State Medical Society. We estimate from replies received to date from 20 counties that an additional 150 from all Pennsylvania counties will be called before Apr. 1, with a growing proportion of their number being members of our State Medical Society. It is not believed that the total number of Pennsylvania physicians called by the end of the year 1941 will exceed 500, of whom 275 to 300 will be State Medical Society members.

A patriotic duty undoubtedly rests upon all licensed physicians in Pennsylvania, regardless of age or physical disabilities in connection with the current national endeavor to survey, analyze, and prepare for any emergency the medical facilities of the Keystone State. The members of our committee earnestly request the assistance of all the officers of the State Medical Society.

Respectfully submitted,

CHARLES H. HENNINGER, *Chairman*,
FRANCIS F. BORZELL,
WALTER F. DONALDSON,
HARVEY B. STONE, Baltimore, Ex Officio,
(A. M. A. representative, Third Corps Area).
PENNSYLVANIA COMMITTEE ON MEDICAL
PREPAREDNESS.

Dec. 9, 1940.

COMMITTEE ON PUBLIC RELATIONS

To the President and Members of the Board of Trustees:

The Committee on Public Relations looks forward to 1941 with enthusiasm and with suggestions for several alterations in existing programs.

Outstanding in the possibilities for the coming year is the further development of "Speakers' Bureaus" in several of our larger component societies. **SPEAKERS' BUREAUS** From information readily at hand, we note that in a number of counties far removed from Pittsburgh and Philadelphia a great deal of dependence seems to be placed upon speakers furnished by the bureaus in Allegheny and Philadelphia counties.

The assistance of the various district councilors and their executive assistants is sought by our committee in expanding the scope of the Speakers' Bureaus in such county societies as Erie, Cambria, Lycoming, Dauphin, Lackawanna, Luzerne, Berks, and Lancaster. If this could be brought about, there would be fewer calls and less drain upon the energies and the time of members in Allegheny and Philadelphia counties who now respond to so many requests for speakers on disease control subjects at meetings arranged by the woman's auxiliaries and the State Health Department in far outlying counties.

Inasmuch as the public did not respond to the Health Exhibit at the ninetieth annual session in Philadelphia, and the larger attendance at the **HEALTH EXHIBITS** Exhibit at the eighty-ninth session in Pittsburgh was obviously due to the showing of the much advertised motion picture, "The Birth of a Baby," which was never shown commercially, need for change in this form of public education seems to be justified.

If the public will not come to such health exhibits, our committee suggests the alternative policy; namely, that our society take the Health Exhibit to the people on the street.

It is suggested that the Health Exhibit held during our annual session be transferred to a prominently located downtown store room, with entrance from the sidewalk, rented for the week, and be well advertised in advance.

In such a downtown store room displays could be set up, sound motion pictures could be presented continuously, printed health information could be distributed and written questions accepted for subsequent reply by mail.

A health exhibit in such a location would remove it from the more formal and forbidding location of an exclusive hotel lobby or the floor of what is in season an expensive café with a dance orchestra.

It is suggested that our annual state-wide health poster contest, successful for the past 3 years, be discontinued. However, health **COUNTY HEALTH POSTER PRIZE CONTESTS** poster contests sponsored by individual county medical societies should be encouraged and our assistance offered in those counties where the medical societies desire to introduce or continue to conduct them. The expense to the participating county societies is small, averaging \$25 to \$30 to each society for prizes. The Committee on Public Relations of the State Society would continue to handle most of the detail, including correspondence, but no longer offer prizes or announce state-wide winners.

With health agencies of various kinds resorting more and more to the presentation of sound motion pictures for public instruction, our **MOTION PICTURES AND PUBLIC INSTRUCTION** committee suggests the purchase of a suitable sound motion picture projector and a few suitable films on general health topics. At the

present time we can purchase the most modern combined sound and silent projector upon which we have a rental credit of about \$45.

Sound motion pictures offering reliable information on health could thereby be made available to county medical societies, to schools, women's clubs, and similar groups. Because sound motion pictures cannot be shown in public other than by a licensed operator, our Mr. Jansen has qualified as a licensed operator and his service is always available at no additional expense except travel. We estimate that the machine, a permanent investment, and its proposed uses throughout the year will cost the State Society, including travel expense, \$750. The 1940 Prize Poster Contest cost the State Society \$410.

The newspaper releases "Your Health" and "Daily Dozen," together with such other news releases as are desirable, are being used regularly by a constant number of newspapers throughout the state. Queries and comments from editors regarding these releases indicate sustained interest.

The Committee on Public Relations is anxious to minimize operating expenses for next year, but is equally anxious to maintain the progressive position it now holds among the constituent state medical societies of the A. M. A. and to increase its educational value through the above-suggested channels.

Respectfully submitted,

FREDERICK M. JACOB,	JOHN A. DAUGHERTY,
	<i>Chairman,</i>
ROBERT M. ALEXANDER,	EUGENE P. PENDERGRASS,
	<i>Ex Officio</i>
PATRICK E. BIGGINS,	FRANCIS F. BORZELL,
JOSEPH W. POST,	LEWIS T. BUCKMAN,
LEONARD G. REDDING,	ROBERT L. ANDERSON,
ELMER G. SHELLEY,	JOHN J. BRENNAN,
CLAUDE W. ASHLEY,	WALTER F. DONALDSON.

Dec. 9, 1940.

REMITTING COUNTY AND STATE SOCIETY DUES OF MEMBERS ABSENT IN MILITARY SERVICE

To Component County Society Secretaries.

DEAR DOCTOR:

In the year 1918 and throughout the early part of 1919, more than 2000 members of The Medical Society of the State of Pennsylvania, or approximately 30 per cent of its membership, were actually in World War military service; yet in 1918 the income of the State Medical Society from dues was reduced only 15 per cent because the county medical societies of more than one-half of the 2000 members in military service paid their state society dues for the year.

During the year 1919, in response to a special request from the 1918 House of Delegates of the State Medical Society, the 1919 dues of members in service were paid by the component societies for all but 5 members.

A study of the finances of the State Medical Society throughout its entire history indicates that the income from dues has never been sufficient to meet annual administrative expenditures. At the close of the calendar year 1940 the balance remaining in the fund available for administrative expenditures may not exceed \$3500.

With these facts in mind the Board of Trustees of The Medical Society of the State of Pennsylvania rec-

ommends to component county medical societies that county and state medical society dues for members entering the service in 1941 be reduced on a prorated basis, e.g.:

1. For members already in the service and absent from their field of practice, collect no 1941 dues unless they return to their private practice before July 1, 1941.

2. For members in Medical Reserve Corps not called by Mar. 20, 1941, collect full 1941 dues, with the understanding that one-half county and one-half state dues will be refunded to them if called to active duty previous to July 1, 1941.

3. For members called after July 1, 1941, proportionate proration should be made on their 1942 dues.

The Board of Trustees of the State Society on Dec. 10, 1940, estimating that not more than 300 members of the society will be called to active duty during the year 1941, have planned to carry on full administrative activities without curtailment. Any such curtailment at this time would scarcely seem fair to the membership absent in service in the face of the fact that never before in the history of the organized medical profession has there been more need for continuation of so many activities that make not only for medical progress but for the advancement or maintenance of social, economic, and legislative positions already assumed by our State Medical Society in the name of its 9200 members.

The 1941 House of Delegates will have ample opportunity next October to give careful consideration to a possible duplication of the action of the 1918 House of Delegates in relation to the effect on income by World War I; namely, that in the following year each component county medical society pay the necessary proportion of State Society dues per capita for its members then in service.

It is believed that the total number of members of any county medical society who are likely to be affected through the remitting of their 1941 county and state medical society dues is so small that for the current year such possibilities should not interfere with the county society secretary's usual energetic efforts to collect 1941 dues as promptly as in the years just past. In fact, at the present writing, a number of county societies have forwarded to our office the 1941 dues of a considerable proportion of their membership.

WALTER F. DONALDSON, *Secretary.*

Dec. 20, 1940.

LIBRARY NEWS

Members desiring to borrow reprints from the library should send 25 cents in stamps to cover the postage and part of the expense of collecting the material. Address the Librarian, 230 State Street, Harrisburg, Pa. Each package may be kept for a period of 14 days.

Borrowers between Nov. 1 and Dec. 1 were:

J. Arthur Daugherty, Harrisburg—*Surgery* (4 articles).

Bernerd Caplan, Lebanon—*Pre- and Postoperative Care in Surgery* (26 articles).

Norman K. Beals, Franklin—*Tuberculosis* (29 articles); *Tuberculosis, Pulmonary* (17 articles).

William S. Bertolet, Reading—*Medical Ethics* (10 articles).

Myer W. Rubenstein, Pittsburgh—*Vitamins in Skin Diseases* (28 articles).

William W. Widdowson, Indiana—*Diseases of the Gallbladder* (9 articles).

Leonard Meli, Philadelphia—*Socialized Medicine* (11 articles).

Wilbur E. Flannery, New Castle—*Venereal Disease* (37 articles).

Stewart F. Brewen, Wormleysburg—*Mucous Colitis* (8 articles).

Dale C. Stahle, Harrisburg—*Sulfapyridine and Sulfathiazole Therapy of Pneumonia* (21 articles).

Bernerd Caplan, Lebanon—*Blood Transfusion* (11 articles).

George N. Ballentine, Williamsport—*Inflammation of the Vagina* (7 articles).

Charles W. Smith, Harrisburg—*Neuritis* (3 articles).

Joseph Paul Dobo, Duquesne—*Adherent Placenta* (10 articles).

Ross K. Childerhose, Harrisburg—*Pneumoconiosis* (4 articles).

Richard Yoffee, Harrisburg—*Plastic Surgery* (21 articles); *Tattooing* (1 article).

C. Howard Marcy, Pittsburgh—*Boeck's Sarcoid* (4 articles).

Nicholas Padis, Philadelphia—*Blood Supply of the Extremities* (28 articles).

I. P. P. Hollingsworth, West Chester—*Liver Function Tests* (7 articles).

Roy F. Baker, Madera—*Spondylolisthesis* (19 articles).

Edward Pardoe, Johnstown—*Fractures of the Sternum* (2 articles).

Herman Hirsh, Harrisburg—*Therapy of Tabes Dorsalis* (8 articles).

Howard R. Rarig, Berwick—*Xanthosarcoma* (2 articles); *Tumors of the Nose* (2 articles); *Xanthoma* (33 articles).

Simon Berenfield, Pittsburgh—*Displacement Therapy* (10 articles).

Robert C. Hamilton, Pittsburgh—*Heat Stroke* (7 articles).

Louis C. Jacobs, Harrisburg—*Infectious Endocarditis* (19 articles); *Peptic Ulcer* (12 articles).

Francis F. Hart, Philadelphia—*Headache Therapy* (26 articles).

George A. McCartney, Pittsburgh—*Appendicitis* (21 articles).

Warren C. Phillips, Harrisburg—*Retinitis* (1 article).
Frederic C. Lechner, Montoursville—*Serum and Plasma* (21 articles).

Samuel W. Sweigart, Lewistown—*Progress of Medicine* (16 articles).

Harry W. Bernhardt, Rochester—*Boeck's Sarcoid* (15 articles).

Daniel M. Replogle, Altoona—*History of Medicine in Germany* (11 articles).

John J. Conroy, York—*Headache* (15 articles).

Herman Hirsh, Harrisburg—*Oxyuriasis* (2 articles).

George N. Ballentine, Williamsport—*Separation of the Symphysis Pubis* (5 articles).

Charles G. Perkins, Trucksville—*Erythema Nodosum* (14 articles).

Harvey M. Watkins, Polk—*Pneumothorax* (35 articles).

Samuel L. Grossman, Harrisburg—*Pylonephritis* (9 articles); *Pyonephrosis* (5 articles).

Spurgeon S. DeVaux, United—*Appendicitis* (33 articles).

Hilton Addison Wick, New Bethlehem—*Insulin Therapy in Dementia Praecox* (26 articles); *Metrazol Therapy in Dementia Praecox* (21 articles); *Benzedrine Sulfate* (7 articles).

Howard F. Heinkel, Philadelphia—*Undescended Testicles* (27 articles).

Harry B. Thomas, York—*Clubbed Fingers* (5 articles).

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

New (84) and Reinstated (12) Members

ALLEGHENY COUNTY (Pittsburgh)

John J. Boucek	Hyman S. Liebling
William K. Clark	Jacob Ripp
John S. Frank	John A. Schneider
William L. Hauk	Leon S. Smelo
Robert C. Heath	Robert W. Wallace
S. Marie Kinner	C. Richard Walmer
Kent G. Latham	J. Andreas Wunderlich, Jr.

Frank Abrams Homestead
Harold S. Agnew Ben Avon (Bellevue P. O.)
Wilson Dougherty Edgewood
Milton M. Farkas McKeesport
Frederick V. Longphre Wilkinsburg
William O. McNellie Oakdale
Harold H. Meanor, Jr. Coraopolis
Eduard M. Oetting Woodville
Charles Spiegel East Pittsburgh
(reinstated) Joseph H. Harenski, Arthur A. Parks,
Harry A. Klee.

BERKS COUNTY (Reading)

Sylvio J. Barra	George S. Pettis
Natal C. Carabello	Nevin H. Rupp
Thomas J. D. Scanlan	Shillington
Russell E. Stroub	Oley

BLAIR COUNTY

Mathew C. Pirrung Juniata

BUCKS COUNTY

Ladd E. Hoover Langhorne
(r) James Collins.

CARBON COUNTY

Joseph B. Sofranko E. Mauch Chunk
(r) Ira E. Freyman.

DAUPHIN COUNTY (Harrisburg)

Benedict H. Birkel	Herman Hirsh
Theodore O. Doyle	Luther A. Lenker
Joseph C. Gribb	Glenn H. Schantz
Arthur A. Horn	Gratz

DELAWARE COUNTY

Maurice J. Boulotchnik Chester
Alfred W. McKinley Upper Darby
William C. Thoroughgood Sharon Hill

FAYETTE COUNTY

Joseph V. Marnell Uniontown

INDIANA COUNTY

George W. Hanna Homer City

LACKAWANNA COUNTY (Scranton)

Patrick J. Heston Harry Mullin
(r) John P. Zaydon.

LUZERNE COUNTY

(r) Edward E. March.

LYCOMING COUNTY

Margaret B. Kirk Williamsport

MERCER COUNTY

Edgar S. Ingraham, Jr. Mercer

MONTGOMERY COUNTY

Chester H. Albright Harleysville
William D. Anders Lansdale
Samuel R. Ash Pottstown
William C. Bown Norristown
Ralph R. Cherashore Phoenixville
Stephen J. Deichelman Ambler
Marcus A. Fath, Jr. Lansdale
William L. Franck Pottstown
Jesse G. Hafer"
C. Harold Kistler Ardmore
John N. Negrey"
John A. Prickett Abington

NORTHAMPTON COUNTY

Florian R. Maylath Bethlehem

NORTHUMBERLAND COUNTY

Alice B. Whipple Shamokin

PHILADELPHIA COUNTY (Philadelphia)

Michael J. Bennett Nathan Katsiff
Leon D. Blumberg Philip A. Marden
Randal A. Boyer C. Joseph Miller
Anthony C. Brancato Edward T. McNicholas
Edward F. Burt Ermin D. Pompizzi
Alfred J. Catenacci Lloyd W. Stevens
Morton Clofine George H. Wells
Meyer A. Cohen Lee Winston
Donald R. Ferguson Henry B. Zwerling
Francis F. Hart Stoughton R. Vogel
James A. Kane

Edward F. Hooker Bryn Mawr

(r) David Budin, Samuel Lisker, Leon Miller, Morris Miller.

VENANGO COUNTY

(r) Rhoda U. Musgrave.

Removals, Resignations (1), Transfers,
Deaths (11)ALLEGHENY: *Removals*—Townsend W. Baer from New York City to Pittsburgh; Wesley W. Wieland from Virginia Beach, Va., to Fort Hoyle, Md.; Bingham Boyce from Bridgeville to Fort Geo. G. Meade, Md. *Deaths*—Thomas B. Carroll, Pittsburgh (Jeff. Med. Coll. '03), Nov. 26, aged 67; Abraham L. Trevasakis, Turtle Creek (Starling Med. Coll. '92), Oct. 28, aged 80.BLAIR: *Deaths*—Harry B. Cunningham, Los Angeles, Calif. (Med.-Chi. Coll. '02), Oct. 19, aged 69;

David Kaufman, Altoona (Jeff. Med. Coll. '08), Oct. 22, aged 55.

CAMBRIA: *Removal*—Paul K. Good from Johnstown to Hollidaysburg.CARBON: *Transfer* — George A. Truckenmiller, Weatherly, from Luzerne County Society. *Death*—Albert M. Sittler, Bowmanstown (Jeff. Med. Coll. '86), July 29, aged 82.CENTRE: *Removal*—William H. Dreibelbis from Snow Shoe to Beech Creek (Clinton Co.).CLEARFIELD: *Removal*—Elmo E. Erhard from Curwensville to Fort Geo. G. Meade, Md.ERIE: *Removal*—John T. Simmons from Erie to New Orleans, La. *Death*—Edward I. Steinberg, Erie (Denver Coll. Med. '07), Nov. 10, aged 56.FRANKLIN: *Resignation*—Stanley R. Szymanski, Livingston, N. Y. *Removal*—John L. Neill from McConnellsburg to Smethport (McKean Co.).LACKAWANNA: *Removal*—Daniel A. Capwell from Scranton to Larchmont, N. Y.LAWRENCE: *Removals*—Rozella Popp from New Castle to Warren.MIFFLIN: *Removals*—Samuel K. Shultz from Lewistown to Philipsburg (Centre Co.); John H. C. Wenzel from Lewistown to Sunbury (Northumberland Co.).MONROE: *Death*—J. Anson Singer, E. Stroudsburg (N. Y. Univ. Med. Coll. '83), July 29, aged 82.MONTGOMERY: *Removal*—Bothwell Graham from Lewisburg to Durham, N. C.PHILADELPHIA: *Removals*—Christopher J. Mogan from Philadelphia to Fort Geo. G. Meade, Md.; John C. Urbaitis from Philadelphia to Fort Monroe, Va.; Craig W. Muckle from Haverford to Washington, D. C. *Deaths*—P. Brooke Bland, Philadelphia (Jeff. Med. Coll. '01), Oct. 30, aged 65; Mary Jardine Evans, Philadelphia (Univ. Pa. '35), Nov. 6, aged 44; Leon C. Wills, Philadelphia (Jeff. Med. Coll. '07), Nov. 10, aged 57.SCHUYLKILL: *Removals*—Harry W. Deckert from Orwigsburg to Easton; Daniel J. Preston from Mansfield to Wilmington, Del.SOMERSET: *Removal*—James D. Spencer from Somerset to Fort Bragg, N. C.WARREN: *Death*—Monroe T. Smith, Warren (Med.-Chi. Coll. '89), Oct. 28, aged 74.WESTMORELAND: *Removal*—Frank J. Pyle from Scottsdale to Philadelphia.

Net gain in membership during November....84

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since Oct. 28. Figures in first column indicate county society numbers; second column, State Society numbers:

Nov. 2 Blair	114	9128	\$5.00
13 Montgomery	1-16	1-16	160.00
Delaware	1-3	17-19	30.00

Nov. 13 Fayette	133	9129	\$5.00
Philadelphia	2426-2447	9130-9151	140.00
14 Berks	6-11	20-25	60.00
Lycoming	1	26	10.00
Luzerne	349	9152	10.00
16 Indiana	54	9153	10.00
18 Bucks	1-3	27-29	30.00
19 Carbon	1-2	30-31	20.00
Northampton	1	32	10.00
20 Dauphin	1-6	33-38	60.00
Dauphin	231	9154	5.00
22 Lackawanna	260	9155	10.00
Lackawanna	261-262	9156-9157	20.00
Allegheny	5-30	39-64	260.00
Allegheny	1489-1491	9158-9160	30.00
27 Venango	58	9161	10.00

COCKROACHES GET ALONG WITHOUT ANY VITAMIN A

Supposedly necessary for all forms of animal life, vitamin A has been found entirely superfluous in at least one species—the common cockroach. Experiments demonstrating this have been reported by Dr. C. M. McCay of Cornell University.

A colony of cockroaches was kept on a diet known to contain no vitamin A. They should have sickened and died. Instead, they thrive and multiplied in swarms. To make certain that they were not manufacturing the vitamin in their own bodies, Dr. McCay made an extract from 5 pounds of the insects and fed it to rats kept on a vitamin-A-free diet. The rats developed all the symptoms of vitamin A deficiency.

Plainly, somehow cockroaches are able to get along without vitamin A.—*Science News Letter*, Nov. 9, 1940.

NATIONAL LABORATORY MOVES TO THE PHILADELPHIA COLLEGE OF PHARMACY AND SCIENCE

The Philadelphia College of Pharmacy and Science has been selected as the new location for the research and control chemical laboratory of the Commission on the Standardization of Biological Stains. This laboratory, formerly located at the Arlington Experimental Farm (Virginia) of the Bureau of Agricultural Chemistry and Engineering of the United States Department of Agriculture, is now operating under the facilities of the department of chemistry of the century-old Philadelphia institution, through the co-operation of Dr. Louis Gershenfeld, head of the department of bacteriology and hygiene, and Dr. Arthur Osol, director of the chemical laboratories of the college.

Under the direction of Mrs. Anis P. Bradshaw, formerly of Arlington, Va., the purpose of the laboratory is to carry out the chemical analyses necessary for the certification of dyestuffs to be employed as biological stains for bacteria identification and for diagnostic determinations in the United States and in certain Pan-American countries. All of the dyestuffs employed for biological determinations are tested for dye content and identity. Another important phase of the work of this

laboratory encompasses improvement in existing products and the synthesis of new dyes for specific purposes. In addition to the above chemical tests, all commission-certified bacteriologic stains are checked as to their suitability in the staining technics in which they are to be used in the bacteriologic laboratory of the Commission on Standardization of Biological Stains, situated at the Agricultural Experimental Station, Geneva, N. Y. Both the chemical and bacteriologic laboratories work in very close co-operation with each other, and much of the work is verified through bacteriologic experimentation by noted authorities of the United States.

It is interesting to note the origin of the Commission on Standardization of Biological Stains. In 1920 dyestuffs which had previously been imported into the United States from Germany were no longer available. In general, the American products at that time were not satisfactory. At the suggestion of the Society of American Bacteriologists and under the auspices of the National Research Council, the laboratory for this standardization of stains was established under a grant from the Chemical Foundation. During the past 2 decades the work of the commission has expanded and considerable control and research developments have been published. The commission is under the chairmanship of Dr. H. J. Conn, of the New York State Agricultural Experimental Station of Geneva, N. Y. The work in Philadelphia is being carried out by Mrs. Bradshaw, who received her specialized instruction in chemistry at Indiana University, and who later pursued graduate studies at Columbia University and George Washington University.

The Philadelphia College of Pharmacy and Science, where the Biological Stain Laboratory is now located, recently observed the one hundred and eighteenth commencement since its founding in 1821. At that exercise Dr. Louis Gershenfeld, under whose auspices the laboratory came to Philadelphia, was awarded the honorary degree of Doctor of Science.

MOBILIZATION OFFERS OCCASION TO AID STUDY OF EPIDEMIOLOGY

Present knowledge of the behavior of epidemic diseases, particularly as applied to large numbers of men brought together from all over the country, if utilized now can minimize the menace of contagious diseases in the present mobilization and by so doing much can be added to our knowledge of epidemiology, *The Journal of the American Medical Association* for Oct. 12 declares in an editorial on "The Medical Control of Mobilization." *The Journal* says:

"The medical problems presented by mobilization are already taxing the ingenuity of those responsible for the program now pending. The late Hans Zinsser, basing his reasoning on experiences in the mobilization camps in 1917, pointed out that outbreaks of epidemics are almost inevitable when large numbers of men from all over the country are brought together in camps under circumstances which call for arduous physical and disciplinary training. Much control over the epidemic intestinal diseases such as typhoid and dysentery can be exerted by suitable preventive measures, but the situation with regard to respiratory diseases is more difficult. In such conditions as measles and mumps neither prevention nor treatment can be much better

controlled than formerly. The importance of these diseases is emphasized by a citation of the figures: Among the enlisted men who were serving in the United States during the year 1918 there were 102,950 cases of mumps.

"Zinsser was convinced that the unimpeded flare-up of infectious diseases among young military units is stimulated by 2 factors—the too rapid bringing together of large numbers of susceptible young men with large numbers of carriers of the various respiratory organisms, and the quite natural but too energetic efforts to force military training and the physical hardening process at a pace too strenuous for the relatively soft recruit. The evidence backing these beliefs is impressive and the countervailing measures suggested deserve practical trial. Such trial involves in part a change to a scheme of 'gradual mobilization,' which can be carried out in any one of a number of different ways. The assembly of large troop units can be developed in successive stages, beginning with small units and gradually joining these into larger units so that early medical supervision can be more carefully carried out. Military training or conditioning can be so graded that the necessary 'hardening' is achieved without mass reduction of resistance to infection. The program adopted, however, should take into consideration the epidemiologic experiments of Greenwood and his co-workers, some of whose conclusions, although carefully restricted to mice by them, deserve attention for their implications with regard to mobilization. Among them may be mentioned especially the conclusion concerning the general character of the epidemic process as revealed in herds of mice living in close and continuous contact and subject to the continuous or intermittent migration of susceptible individuals, in which it was shown that ectromelia, a virus disease of mice, under these circumstances, will never normally die out.

"Military mobilization presents a challenge and an opportunity. Available epidemiologic information such as that discussed must be utilized in planning each step of the assembly and care of the new recruits. The behavior of epidemic diseases under the different circumstances which develop must be carefully recorded and analyzed. Only by immediate concentration on these 2 objectives will it be possible to profit fully from the unique epidemiologic opportunity furnished by mobilization."

INDUSTRIAL WORKERS AND ARTIFICIALLY LIGHTED, WINDOWLESS BUILDINGS

Artificially lighted, windowless industrial buildings, designed for "blackouts" in case of war, if equipped with great care need have no harmful effects on the eyes of workers, nor should they produce any significant tendency to claustrophobia, *The Journal of the American Medical Association* for Nov. 30 says in answer to an inquiry.

"The long-time use of artificial lighting to the exclusion of all natural light may have a harmful effect on the eyes of workers," *The Journal* says, "but foremostly because of the inadequacy or unsuitability of the artificial lighting provided. Until recently there has been no form of artificial lighting that compared favorably with daylight. Even now statements as to parity

must be accepted with reserve. However, with the advent of fluorescent lighting, with high intensity, absence of glare, and a minimum of disturbing shadows, it is now possible to meet all the visual requirements of daylighting, but while artificial illumination may be made the equal or even the superior of daylight in selected enterprises, such as department store work, it should not be inferred that all the beneficent purposes served by sunlight are met."

In discussing the possibility that windowless factories might cause claustrophobia among workers, or might predispose the workers to panic in case of air raids, *The Journal* declares: "Current comment on windowless air-conditioned work places implies that such structures are radically new. Overlooked is the fact that most theaters are windowless, ventilated or air-conditioned creations and that the counterpart of a windowless ventilated factory can be found in any mine. It is common experience that claustrophobia is not of common occurrence among theater patrons. On the other hand, few persons enter a mine or descend into a well without some anxiety. Certainly the mild apprehension which is the lot of most persons confronted with strikingly unusual physical surroundings cannot be regarded as significant. On moving into any new factory or office quarters of the windowless or opaque glass tile type of structure, fair numbers of all employees become more aware of air conditions, lighting, and odors. Usually these mild states are transitory and unimportant. When the anxiety is severe or prolonged, adequate inquiry ordinarily will establish causative connections wholly unrelated to physical surroundings."

Regarding the effect of working in windowless factories on the sickness rate of employees, *The Journal* says that it is improbable that any significant disease conditions could be created by this type of architecture.

ROCKY MOUNTAIN SPOTTED FEVER

A case of so-called Rocky Mountain spotted fever in eastern Pennsylvania, unusual both because of the time of its onset, December, and because of the occurrence of a relapse 3 weeks after the subsidence of all symptoms, is reported by Milton H. Cohen, M.D., York, Pa., in *The Journal of the American Medical Association* for Oct. 26.

In the Atlantic states cases of the fever have been reported from May through October, that is, during the season of the ticks whose bites are responsible for the disease. The occurrence of a case in December is decidedly unusual.

The author says that the name of the disease is a suggestive misnomer, as it is by no means limited to the Rocky Mountain region and is being found with increasing frequency in the East. When an isolated case does appear in the East, however, it always represents a problem for diagnosis, particularly if it is the first to be seen in the community in which it arises. He recommends that the disease be considered in any case of fever the diagnosis of which is difficult.

In the case which he reports, Dr. Cohen says, there was no history of a tick bite, but about a week before the onset of fever the patient had handled a shipment of undressed furs which may have contained a tick. The occurrence of a relapse 3 weeks after all the symptoms had subsided seems to be the first to be reported in medical literature, he says.

ADVANCES IN CANNING TECHNOLOGY

I. Requirements for the Modern Canning Factory

● During the first decade of the 19th Century, Nicholas Appert, an obscure French confectioner, worked out empirically the basic principles of canning. In 1811, the first English edition of his book on the "Art of Preserving" was published (1). This text lays down the fundamentals of the canning process; it describes the necessary organization of a canning establishment and its equipment; and it lists canning procedures for more than 50 foods of both animal and plant origin.

Viewed in the light of modern knowledge, Appert's book is surprisingly complete and many of his observations amazingly accurate. Naturally, in the 130 years since his book was published, many advances have been made in canning technology. Consequently, when Appert's quaintly worded descriptions of the requirements for the use of his process are compared with those of modern commercial practice, some insight may be had as to the vast improvements which have been wrought in this important field of food preservation since its humble beginning.

One striking contrast between the old and new in canning lies in Appert's description of the necessary features of a canning establishment of his day. Appert's establishment apparently was composed of seven rooms or "apartments". Four of these were equipped to handle the preparation of fruits, vegetables, and foods of animal origin; the fifth room was devoted to the cleaning and storage of the glass bottles used as containers; the sixth room was the "sealing" room in which the bottles were corked after filling with food; the last room contained the large covered kettle in which the sealed containers were processed in boiling water.

The requirements for the modern cannery are, of course, much more exacting, both

from the standpoint of factory site, arrangement, and equipment. Today, canneries must be located close to the fields, orchards, or waters from which the raw materials are harvested. Rapid handling of freshly harvested raw stock—a prime requisite for quality of the final product—is thus facilitated. The factory site must also be chosen so that an adequate supply of potable water is available. The modern canning plant is arranged specifically for handling the product or products that will be canned. This provides for continuous, rapid, and even flow through the various operations comprising the canning procedure for the particular product.

Needless to state, the equipment requirements of the modern canning factory are also much more complex than in the days of Appert. Present-day, large-volume production—necessary for the manufacture of a low-cost product—requires the use of high-speed automatic equipment for conveying the raw materials through the cleansing, preparatory, and all other operations of the commercial canning procedure. Frequently, much of this equipment must be constructed of special metals or alloys; in all cases it must be so constructed as to permit rapid, thorough, periodic cleansing. To maintain and control this highly specialized machinery, a skilled mechanical staff is necessary.

Space will not permit fuller description of other requirements for the cannery of today. Thousands of such factories combine to form the American canning industry, whose products already have become so essential in our modern civilization and in our national defense. Commercially canned foods have fulfilled every prediction of Appert by whose "extensive practice and long perseverance" a new means of food preservation was made possible.

AMERICAN CAN COMPANY

230 Park Avenue, New York, N. Y.

REFERENCES

- (1). The Art of Preserving All Kinds of Animal and Vegetable Substances, M. Appert, Black, Parry, and Kingsbury, London, 1811.

We want to make this series valuable to you, so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned-foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles. This is the sixty-seventh in a series which summarizes, for your convenience, the conclusions about canned foods reached by authorities in nutritional research.



The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Council on Foods of the American Medical Association.

COUNTY SOCIETY REPORTS

ADAMS

Nov. 6, 1940

The meeting was held at the Hotel Gettysburg, Gettysburg, at 8 p.m. Dinner was served to 14 members and 4 guests.

J. Sheldon Eastland, associate in medicine, University of Maryland School of Medicine, addressed the society on "The Management of Diabetes," an abstract of which follows: He deprecated the present tendency of the general practitioner to sidestep the treatment of diabetes because of the supposed necessity of extensive laboratory work. It is important to give a full explanation to the patient in order to secure the necessary co-operation. Every patient is entitled to a urinalysis. There is an apparent increase in the morbidity—from thirty-seventh to seventh place within the past 40 years.

Any glycosuria should excite suspicion, and can be determined by a very simple tolerance test—urinalysis before and after a meal.

There is only one treatment—diet. But if this is simply expressed in terms of "no sugar or starch," trouble will inevitably result, for the diet will not be followed. The practical methods of prescribing a diet which can be followed by any one were reviewed.

The opposing theories of high fat and high carbohydrate diets were discussed, also the advantages of using conventionally available means of measurements. No one knows if the calculated diet is the right one, but it can be proved by urinalysis. The patient should be taught to do this with Benedict's test, reported in terms of color.

Insulin should be given only when a diet fails to give the desired results. There is no substitute for insulin. The several varieties were reviewed, and the relation of the blood sugar level was discussed. Comparatively high thresholds are normal in many cases. The difference between low blood sugar levels produced by ordinary insulin and those produced by protamine zinc insulin was given.

Dr. Eastland advocated the teaching of self-administration of insulin and discussed insulin shock, stressing the fact that the newer varieties of insulin sometimes produce an effect very similar to coma.

HENRY STEWART, *President.*

ALLEGHENY

Oct. 15, 1940

The scientific meeting was held at the Mellon Institute Auditorium, Pittsburgh, at 9 p.m., and the program consisted of a Symposium on Vertigo.

"Neurologic and Medical Aspects" was given by Harold L. Mitchell and John A. Malcolm.

"Roentgenologic Interpretations" was given by John F. McCullough and L. Herbert Osmond, who said in part: Vertigo in brain tumors is commonly considered as a general symptom of increased intracranial pressure, and its genesis is explained as due to the action

of the pressure on the labyrinth and its rhombencephalic centers, although in some cases it may be due to injury of a possible cortical center for the labyrinth. Therefore, all of the roentgenologic manifestations of intracranial tumors should be carefully searched for in well-made roentgenograms of the skull. This includes deformation of the sella turcica, convolutional atrophy, calcification of the tumor, widening of the sutures, local bone erosion, local hyperostosis, displacement of the pineal body when calcified, and wide diploic channels. Careful evaluation of such data in conjunction with the clinical material may give valuable information and may make it possible to dispense with ventriculograms or encephalograms.

From the standpoint of vertigo, tumors of the acoustic nerve are of particular interest. They constitute from 8 to 10 per cent of all brain tumors. Various roentgenographic positions are recommended. The basal projections reveal many confusing shadows, especially that of the carotid canal over the porus acusticus. The positions of Stenvers and Hodgson are excellent for the pyramid as a whole, but produce a foreshortened image of the porus acusticus. The Towne or occipital view is excellent for disclosing erosion of the postero-superior surface of the pyramid, but in this position confusing shadows may also be cast over the porus acusticus. It is believed that an anteroposterior projection with the head placed at such an angle that the shadow of the pyramids is cast into the orbits is most conducive to demonstration of the internal auditory meatus and canal. Although the petrosa lies in the base of the skull at an angle of about 45° to the sagittal plane, the pori enter the pyramids at such an angle that the long axes form a right angle with the sagittal plane and thus are parallel with the film in this projection. This allows a better image than is usually obtained in the other views. Hence, it should be easier to discern slight erosion.

Cushing, in his monograph on acoustic nerve tumors, expressed the belief that increased knowledge would eventually lead to detection of early cases roentgenologically, before the appearance of typical angle signs and symptoms. Since this statement, roentgenographic technic has improved remarkably. This together with increased knowledge concerning the normal variations has allowed roentgenology to achieve a definite and important place in the diagnosis of these tumors. However, even though roentgenographic examination may offer valuable confirmatory evidence, it cannot be used to rule out the presence of such a tumor; but with this additional view, with improved roentgenographic detail, and with increased knowledge of the numerous normal variations, it is believed that this problem can be handled with a high degree of accuracy when carefully correlated with all of the clinical data.

Two cases demonstrating a definite erosion of the auditory meati and medial portions of the canals were shown. The cerebellum, temporal lobe, and basal ganglia tumors rank next to the eighth nerve tumors in the incidence of vertigo. A case of each was shown, demonstrating the value of positioning in tak-

ing the ventriculograms in order to show accurately the localization in cerebellar tumors. The importance of accurate localization to the left temporal lobe is readily appreciated when the speech center is in a normal position. The lateralization in cerebellar tumors allows a unilateral suboccipital craniectomy instead of a complete exposure. A case of acute and chronic obliterative basal arachnoiditis having vertigo was also shown, further emphasizing the value of ventriculograms in making an accurate evaluation of the condition.

"Ophthalmologic Viewpoint" was given by Robert J. Billings and C. William Weisser.

"Otologic Interpretation, Bárány Tests, Technicolor Films" was presented by N. Arthur Fischer, Ralph E. Stone, and H. Lewis Riva.

"Cerebral and Cerebellar Discussion" was given by Samuel S. Allen and J. Francis Grunnagle.

The discussion of the symposium was opened by George J. Wright.

Nov. 19, 1940

At the scientific meeting of the society held in the Mellon Institute Auditorium, Pittsburgh, Cyril N. H. Long, Sterling professor of physiologic chemistry at Yale University Medical School, New Haven, Conn., was the fifth guest speaker of the Renziehausen Memorial Lecture Series. Dr. Long delivered an address on "The Endocrine Control of Metabolism." He said in part:

The study of metabolism is the investigation of the chemical processes occurring in living organisms. By means of these processes the organism obtains energy for its manifold needs and also carries out a diversity of synthetic reactions by which the substance of the tissues is continually rebuilt.

These chemical reactions proceed in a smooth and integrated manner by the operation of a remarkable series of enzyme systems. It is a fact of great significance that 3 members of the vitamin B complex have been shown to be necessary components of some of these enzymes.

The fact that the metabolism is adjusted to meet a wide variety of circumstances, dietary and otherwise, indicates that the organism possesses highly efficient regulatory processes which enable it, for instance, to maintain the blood glucose within a narrow range when either a plethora of carbohydrate is fed or all food is withheld.

The discovery by Minkowski that an internal secretion of the pancreas was necessary for the normal utilization of carbohydrate opened the way to an enormous amount of work on the hormonal factors regulating metabolism. Until 1930 insulin was regarded as the essential regulatory factor as far as carbohydrates were concerned. In that year, however, the discovery of Houssay that a total pancreatic diabetes could be ameliorated by removal of the pituitary gland not only cast doubt on this assumption but opened the way to a much wider comprehension of the nature of the endocrine control of metabolism.

It has now been shown that the anterior pituitary not only inhibits glucose utilization in the tissues but is also able to increase the glucose production in the liver from noncarbohydrate sources. Between the operation of these 2 endocrine glands the metabolism of carbohydrate is not only held between what is termed "normal limits" but is also adjusted to meet the changing needs of the body.

The relation of the anterior pituitary to metabolism is, however, complicated by the fact that it also controls the secretory activity of other endocrine organs, 2 of which are already known to influence certain phases of metabolism. The most important of these are the thyroid and adrenal cortex, and in the absence of the pituitary tropic factors these glands undergo atrophy with a consequent reduction in their functional level.

The hypophysectomized animal, therefore, exhibits a true pluriglandular deficiency which, as far as carbohydrate metabolism is concerned, consists of an abnormally high rate of utilization and a deficient ability to produce glucose. The latter is due to the deficient supply of adrenal cortical hormone, and the former to the loss of a directly acting pituitary factor whose normal function is apparently to retard glucose oxidation in the tissues.

In the case of protein metabolism, a similar balance appears to be maintained by the operation of 2 anterior lobe factors. The first of these, termed "the growth hormones," apparently operates by accelerating protein synthesis in the tissues, while the second is the adrenotropic factor which stimulates an increased secretion of the adrenal cortical hormone. This hormone increases the rate of tissue protein breakdown, and in this way makes available to the organism not only energy but also a supply of glucose at times when no carbohydrate is available from other sources.

It is probable that other phases of metabolism, particularly the regulation of the water and salt balance of the organism, are under similar types of endocrine control.

JOSEPH A. SOFFEL, *Reporter*.

BLAIR

Oct. 22, 1940

The members of the society held their regular monthly meeting at the Blair County Hospital, Hollidaysburg, as the guests of Roy W. Goshorn, superintendent of the hospital. The meeting was opened by President Charles S. Hendricks. Dr. Goshorn introduced the speaker of the evening, Winfred Overholser, superintendent of St. Elizabeths Hospital, Washington, D. C. Dr. Overholser spoke on "Psychiatry in General Practice." He said in part:

This occasion is significant in that it brings together the 2 branches of medicine which in the past have been too far apart—mental medicine on the one side and general medicine and the specialties of medicine on the other.

Mental trouble used to be looked upon as something entirely outside the pale of medicine—it was considered as being entirely apart and having nothing to do with general medicine, and the mental hospital physicians were looked down upon—they did not "belong."

There is nothing new about mental disease. Until comparatively recent years mental patients were thought to be dangerous and were treated as such. The mental hospitals were entirely for the custodial care of dangerous patients and paupers. This is true even today in some places. Patients in these institutions therefore suffered under the stigma of criminality or pauperism, one as bad as the other. The family physician felt his duty was done when the unfortunate patient was cast into an institution.

Prior to the past 2 decades, little psychiatry was taught in the medical schools; the student thought that it had nothing to do with the rest of medicine, that it

was not interesting, nor as attractive as other fields. The student saw very few patients. Occasionally a patient was exhibited before the class, but any real effort to present psychiatry as intimately connected with the rest of medicine was lacking.

About the turn of the century Kraepelin came along with a new classification of mental diseases. He broke down the classifications of mania, dementia, and melancholia into a number of other categories. However, the understanding of their cause was still foggy.

In the old reports of mental institutions, few statements are listed as to the cause of mental disease. Hard work was looked upon as a cause (hard work probably never caused anyone to break—it is not tried often enough); jealousy, abnormal sexual habits, fear, poverty, and the old reliable "heredity" were also thought to be the causes of mental trouble. It is very convenient to place the blame on your ancestors—they are dead and you cannot hurt their feelings and it will solace your own considerably. Even at the turn of the century this idea still held, but we are getting away from it now. Heredity is sometimes a factor, but nowhere to the extent taught 30 years ago.

Freud started his studies in the field of psychology of the unconscious about the same time as Kraepelin, a work which since that time has invaded the entire field of psychiatry, and will even more. Freud has done much in recent times to cast light upon the mental processes involved in the psychoses, and indeed in normal individuals as well.

Medicine in general is becoming more and more specialized. The tendency is too much specialization; we are too near-sighted to see the complete picture or

get an idea of the whole page. The patient tends to be lost sight of. The general practitioner of today should not make the mistake of looking upon the patient as a heterogeneous mixture of a circulatory system, a gastro-intestinal system, etc., and overlook him as an individual. General practice affords the best opportunity to practice psychiatry that we have. It is the general practitioner who thinks of the patient not as a pair of lungs or a gastro-intestinal tract but as an individual who has a certain heredity and environment. He sees the complete picture and often realizes that the best advice he can give a patient is to take a vacation from the rest of the family, get away from his usual environment, and have a complete change when things get too thick domestically or emotionally. This is advice of which the specialist might take account.

Today we must know more and more about the emotional factor in its relation to the patient as a whole, the total personality. A great deal has come out in the literature in recent years and much research is being done along these lines. Cannon and other physiologists have furnished valuable corroboration of the psychiatrist's work in this field.

In some general hospitals there is a standing rule or tendency to send the delirious patient to a mental hospital, sometimes with unfortunate results to the patient. Every hospital ought to think twice before sending anyone to a mental institution. They should be prepared to meet complications. Even though we are trying to get away from, and have been successful to a great extent, the so-called "stigma" of residence in a mental institution, a great many people resent going to one, although there are very simple and very good

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commitment laws in this state. Delirium usually lasts only a day or so and ordinarily the patient can be controlled by using a restraint sheet.

Sometimes in the puerperal state a patient will develop a mental disorder which is sometimes improperly termed insanity. The physical effort plus the mental strain may sometimes precipitate a breakdown which may be transitory or of long duration, and any one of several types. There is no uniform type of puerperal psychosis and no such classification is recognized. Certainly the patient should not be sent to a mental hospital at least until the time when she would have been discharged from the general hospital anyway. Serious results may come from moving her.

The neurotic has long been the butt of unfeeling jokes. It used to be thought that nothing could be done for these patients, and the new physician in the town always got them for awhile. Neurosis is a prolonged type of disorder. The patient has many complaints of psychogenic origin that do not have any demonstrable physical pathology. It does no good to tell the patient that his symptoms are imaginary. A great deal can be done with this type of patient, however, by at least attempting to understand and ascertain what is at the base of his complaints. Not all neurotics are curable. The patient sometimes gets too much satisfaction out of his illness to let go of it.

Very often what the physician means when he tells the family that the patient has a "nervous breakdown" is that the patient has a mild depression. "Nervous breakdown" is not a psychiatric classification, but a popular euphemism. Depression is a common symptom—an abnormal feeling of sadness beyond justification by the facts. A feeling of sadness under certain circumstances is perfectly proper and is usually of short duration, but morbid depression is prolonged and intense. The patient who has a prolonged state of depression and a feeling of inadequacy feels that there is no use in living and that he is not very useful. He is sometimes told to take a trip; however, the likelihood is that he will carry his troubles with him. He may even try to jump off the boat. Sometimes he is told to work a little harder to forget his troubles, but the extra effort may only work more harm. All too often this sort of advice results in suicide. All suicides cannot be prevented, even in institutions, but do not think that those who talk about suicide all the time are never the ones who try it.

Early paresis is often passed over as a "nervous breakdown." Early mild depressive symptoms are dismissed lightly, whereas an examination might readily reveal fixed or unequal pupils, active or absent knee jerks, and other conditions indicating damage to the central nervous system. Paresis is a delayed manifestation of syphilis and is now amenable to proper treatment, notably fever therapy.

From 1900 to 1935 the number of persons over 65 increased from 4 to 6 per cent of the total population, and it is estimated that by 1980 the percentage will be 14 to 16. Thus senile mental disorders may be expected to be more frequent in practice. Sending these patients to a mental institution should be the last resort. Sudden uprooting from the home life may have a bad effect, and the patient may grow rapidly worse and die. Very often they can be cared for adequately at home. Much, of course, depends on the facilities of the home and the attitude of the family.

One reason for a lot of quackery, charlatanry, and the various "isms" is that many even of our best phy-

sicians do not recognize psychiatric symptoms. The physician may feel that he is too busy to allow the patient to unburden his troubles and talk himself out. He will give the patient a hurried examination, hand him some pills, and expect him to be satisfied. The patient has had no chance to talk about himself. As a result, he will go to a quack who promises a positive cure and pretends to understand and sympathize. What the patient needs is sympathy and an understanding ear. Giving him a chance to talk about his condition and appreciating the fact that he is a human being and an individual is what the general practitioner in the past used to do, and what many general practitioners do today—something which the specialist will do more and more, it is hoped. Psychiatry is not something confined within the walls of an institution or outside the general practice of medicine. It is something that can well be practiced by anyone in the general practice of medicine and, whether under that name or not, is practiced by the truly successful general practitioner.

A buffet luncheon was served following Dr. Overholser's address.

Nov. 26, 1940

The regular monthly meeting of the society was held at the Jaffa Mosque, Altoona, with President Charles S. Hendricks presiding.

The speaker for the scientific session was William H. Guy, professor of dermatology at the University of Pittsburgh Medical School, who spoke on "Syphilis in Dermatology." He said in part:

Syphilis is a chronic constitutional disease caused by the *Spirochaeta pallida*, which has 3 characteristic motions—a rotary on its long axis, a gently undulating motion, and a forward and backward motion. There are 2 important methods of identifying the organism, the darkfield microscopic method and the India ink method, with the former method being the more important and reliable. The *Spirochaeta pallida* is to be distinguished from other spirochetes, some of which are *S. refringens*, *S. gracilis*, and *S. microdentium*.

Following implantation of the *Spirochaeta pallida* in the tissues, the organism remains in situ but a short time as evidenced by the fact that the prophylactic treatment to be effective must be applied within 4 hours after exposure. Some research workers in syphilology are of the opinion that there are spontaneous cures of the disease in certain individuals, but this is certainly not the general rule. The first evidence of infection usually is the appearance of a chancre or primary lesion about 10 to 30 days after exposure. This lesion may be of 3 types—abraded, eroded (hunterian), or papular. It may occur any place on the body, but usually only 10 per cent are extragenital in location. The lesion is indurated and hard and, if untreated, pursues an indolent course lasting sometimes for months, or it may heal in a week or so.

The important thing for the physician to do is to have a darkfield examination made of any suspicious lesion. If treatment is started against the disease while it is primary and before the Wassermann reaction is positive, there is much greater likelihood of cure. Physicians should remember that 10 per cent of adult males are syphilitic and so should be on the lookout for the disease. Sometimes the lesion of syphilis is confused with other lesions such as herpes progenitalis or the chancroid. The main thing to do is to make a darkfield examination of material from the suspected lesion before starting any local treatment of any kind. Chancres are

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painless except where they occur on the hands, in which case they may be very painful and resemble a felon with the distinction that the chancre is nonsuppurative. The lymph nodes are usually enlarged within 10 days after the appearance of the initial lesion and this consists of an indurated painless thickening of the lymphatic channels followed by enlargement of the glands which drain the area in which the chancre is located.

Following the appearance of the primary lesion of syphilis, there ensues a variable period from 6 weeks to a year during which no additional symptoms occur. Then various skin eruptions and mucous membrane lesions usually develop. However, not all patients have these phenomena and this absence of secondary lesions is often true for women. Those patients showing the most marked skin lesions are much less likely to develop late visceral and neurologic lesions. All the eruptive features of secondary syphilis are more or less generalized, superficial, symmetrical, and upon disappearing do not leave scars. Macular, papular, maculopapular, and pustular lesions are seen. It must be remembered that syphilis is a constitutional disease, thus many other disturbances are found in addition to dermatologic manifestations. Some of these in secondary syphilis are: a constitutional reaction with fever, malaise, and aching pains in muscles and joints; secondary anemia; headaches with nocturnal exacerbations; and various paralyses of eye and facial muscles. In the secondary stage of the disease the Wassermann reaction is positive unless the patient is under treatment or is an alcoholic.

The dermatologic lesions of late or tertiary syphilis usually occur any time after the third year of the dis-

ease. In contradistinction to early syphilides, the lesions are inclined to be asymmetrical, more or less localized, deep-seated, and scar-leaving. There are many types of eruptions, but the gumma is the distinctive lesion of late syphilis and it has a predilection for locations subject to trauma, as the forehead, nose, elbows, knees, ankles, and sternum. This gumma is not "gummy" but may be small and hard. There is often extensive destruction of tissue and in healing the scars are kidney-shaped. Not every case of tertiary syphilis develops these dermatologic manifestations.

All the lesions on the skin and mucous membranes are contagious, some more highly so than others. It behooves physicians to be careful in handling all types of lesions as they may not know whether a given lesion is syphilitic or nonsyphilitic.

One of the latest forms of treatment in early syphilis in otherwise healthy individuals is known as the drip method. This consists in the intravenous injection of an arsenical (mapharsen is used mostly) in a dosage of 240 mg. dissolved in 1200 c.c. of water and dextrose over a period of 12 hours, and this is repeated for 5 days. Preliminary laboratory tests to determine the efficiency of the kidneys and liver are imperative. In this method of treatment some reports show 90 per cent cures. The cure is not evident at once, but within several months when clinical symptoms disappear and the Wassermann reaction becomes negative. There have been some disturbing reactions in a few cases. These consisted of a hemorrhagic encephalitis.

Dr. Guy presented some lantern slides in connection with his talk. R. MARVEL KEAGY, *Reporter*.

DAUPHIN

Nov. 5, 1940

The regular monthly meeting of the society was held in Harrisburg; William K. McBride, the president, presided. The following physicians were elected to membership in the society: Benedict H. Birkel, Theodore O. Doyle, Joseph C. Gribb, Arthur O. Hecker, Herman Hirsh, Luther A. Lenker, Patrick J. McGlynn, Fred Pease, and Glenn H. Schantz.

E. Richard Coffey, of the United States Public Health Service, was the speaker of the evening. Dr. Coffey spoke about the concentration of troops under the Selective Service Act, i.e., how it will affect the size of present communities, and how with the establishment of military camps and reservations new communities will form. For every man in military service an additional $1\frac{1}{2}$ persons move into the vicinity of the reservation. This increase in population always brings with it the problems of water supply, sewage disposal, supervision of food handling, and control of communicable diseases. It requires the establishment of local health services. The United States Public Health Service will co-operate with the local health services, but it will not assume the responsibility alone.

Dr. Coffey pointed out a few of the things which have been done to control some of the contagious diseases, such as the draining of swamps and proper screening of dwellings in the control of malaria, elimination of rodents in typhus fever, vaccination and the inspection of aeroplanes in the control of yellow fever.

CHARLES WM. SMITH, *Reporter.*

ERIE

Nov. 10, 1940

Albert D. Kaiser, of Rochester, N. Y., addressed the society on "Problems in the Control of Rheumatic Fever."

Dr. Kaiser stated that it was not until 1789 with the introduction of the stethoscope that the relation between rheumatic fever and heart disease was definitely established. The etiology of the disease is still unsettled. Any disease in which the etiology is undetermined is hard to control, hence the first problem in the control and treatment of rheumatic fever is to create a different attitude toward the disease. Poliomyelitis is only one-twentieth as severe as rheumatic fever, yet more notice is taken of the former probably because of its acute onset and the marked manifestations.

Rheumatic fever is especially prevalent in the temperate regions. It is rarely seen in the tropics, unless in individuals who have migrated from a colder climate. Most cases of rheumatic fever are seen in the late winter and early spring. Damp places such as waterfronts and foggy areas favor the development of the disease.

Rheumatic fever is rare in infants and presents few symptoms before age 2. It is most prevalent between age 6 and 12.

There are at present 4 generally accepted theories as to the cause of rheumatic fever: (1) That it is of bacterial origin has been substantiated by the finding of streptococci in blood cultures by various workers. (2) Though the virus nature of the disease has been

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advanced, no filtrable virus has been demonstrated as etiologically active in the disease. (3) That rheumatic fever is of an allergic nature is based on the fact that these patients are hypersensitive to various agents. It is thought that the tissues may be made hypersensitive by repeated infection from certain foci. (4) The fact that the rheumatic individual does not excrete as much vitamin C as the ordinary person and that rheumatic fever occurs quite often in patients showing a deficiency of vitamin C has resulted in the theory being advanced that this disease may be a deficiency type of disorder. The administration of vitamin C, however, does not cure the disease.

Rheumatic fever affects almost any organ of the body, and while it is usually considered as having fever, toxemia, and polyarthritis as its main features, other factors must be kept in mind if its nature is to be clearly understood.

In more than one-half of the patients the acute onset is preceded by sore throat or tonsillitis. In others there is a history of acute infection of the upper respiratory passages or lungs. Often there is malaise, anorexia, loss of weight, and a diminished capacity for work. Within 24 hours the acute attack is often well developed with a fever of 102 to 104 F., rapid pulse, profuse perspiration, severe prostration, and polyarthritis. The polyarthritic form of the disease may be divided into monocyclic, polycyclic, and continuous types. In the first there is a single cycle of fever lasting from 10 to 14 days, the arthritis spreading from one set of joints to another. After involvement of few or many of the joints, the fever decreases, the arthritis diminishes, and the patient recovers without further manifestations. The polycyclic form follows a cycle as just described, but there may be another cycle of the same type, or joints that have recovered may again become involved. In the continuous form the patient always presents some indication of active infection, often varying in intensity from time to time.

Cardiac involvement is one of the most common features of rheumatic fever and the physician should always be on the alert to detect serious involvement of this organ.

Pleurisy, occurring in 5 to 10 per cent of patients, is more frequent on the left side, when it usually accompanies pericarditis.

Skin manifestations such as subcutaneous nodules and purpura indicate that the patient's response to the infection is chiefly proliferative in nature and widespread in its distribution, with concurrent myocarditis; hence their existence is considered of serious if not fatal import, but many patients with them recover and return to a normal useful life for years.

Chorea is now considered one of the important rheumatic manifestations. Its existence indicates that a child is rheumatic, and hence should be protected from unusual stress and strain, and especially guarded against hemolytic streptococcal infections.

A history of recurring fatigue, muscle pain, and pallor in the early spring together with a history of familial susceptibility to rheumatic fever is one of the most important diagnostic aids in this disorder.

Rheumatic fever is usually accompanied by a secondary anemia. A white cell count of 15,000 to 25,000 is usually found during the acute stage; this decreases as the symptoms subside. The erythrocyte sedimentation rate is a good index of rheumatic activity. Rates of 100 to 130 mm. are found in acute cases. In chronic cases, rates of 30 to 60 mm. are long maintained. Cutaneous hypersusceptibility to streptococcal products is not diagnostic because it occurs after all streptococcal infections.

The migratory polyarthritis responding to certain drugs is a feature practically unduplicated by other diseases.

The immediate mortality of rheumatic fever varies from 1 to 4 per cent; in children it may be from 10 to 12 per cent. The prognosis in this disease is influenced by the mode of life of the patient. Continued existence in an environment where the disease is contracted favors a persistence or a recurrence of the infection.

Rest, relief of pain, attention to nutrition, and a regulated convalescence, together with large amounts of fluid, are the chief therapeutic indications.

Practically all of the acute distressing symptoms,

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except those due to cardiac failure, are relieved by the compounds of salicylic acid. These may be harmful in a way in that the patient relieved of pain may get up and the heart damage goes on. Digitalis should be given for heart failure as soon as signs of this appear. Removal of foci of infection should be undertaken after the acute symptoms subside. A patient who is subject to recurrent attacks should be advised to change to a tropical climate if at all practicable. Sulfanilamide, so efficacious in hemolytic streptococcal infections, has no beneficial influence on the course of rheumatic fever once the disease is established. In fact, it appears to aggravate the symptoms.

In discussion, Fred E. Ross said that the great danger in the care of the rheumatic patient is that of reinfection. It was formerly believed that rheumatic fever attacked only the heart valves, but now it is known that it may involve the heart muscle also as well as other organs of the body. Our greatest problem in the care of the rheumatic patient is to get the mother to co-operate in the matter of bed rest for the patient. Our hope for the future is that some philanthropic organization will become as interested in patients with crippled hearts as they are in the matter of patients with crippled bones.

Howard B. Emerson said that records at Hamot and St. Vincent's Hospitals show a 50 per cent decrease in the number of admissions of rheumatic fever for the year 1939 as compared to the year 1938. This no doubt means that we are missing a number of cases of rheumatic fever because we are looking for the cases with typical signs of the disease.

Norbert D. Gannon said that every case of unexplained fever in a child should be considered as rheumatic in origin. This also applies to so-called growing pains in children. The removal of tonsils should be advised in all cases of chronic inflammation of the ears and cervical glands.

T. Palmer Tredway said that the rheumatic fever patient should be treated very much the same as a patient with tuberculosis. He has had success in 2 cases of recurrent rheumatic fever treated with 15 grains of sulfanilamide a day for a period of 2 weeks.

DELMAR R. PALMER, *Reporter*.

LANCASTER

Nov. 6, 1940

The regular meeting of the society was held in the Little Theatre at Franklin and Marshall College, Lancaster.

Bernard J. Alpers, professor of neurology at Jefferson Medical College of Philadelphia, spoke on "The Diagnosis and Treatment of Sciatica." Excerpts from his address follow:

Sciatic neuritis is classified roughly as primary or essential sciatica and secondary or symptomatic sciatica. Some cases of the latter type are relieved by surgery. Several common causes of secondary sciatica are a congenitally long transverse process of the fifth lumbar vertebra, tuberculous or pyogenic spondylitis, tumor, sacralization of the fifth lumbar vertebra, arthritis of interarticular joints, sacro-iliac arthritis or subluxation, hip joint disease, rectal impaction, hernia, tumors of the ovary, prostate, and uterus, disease of the tensor fasciae latae, ischio-gluteal bursitis, gluteal myositis, herniation of the nucleus pulposus, hypertrophy of the ligamentum flavum, tabes dorsalis, hemorrhage around the cauda equina, etc.

The primary neuritis cases represent a disease apart. The average duration in one-half of the essayist's series was 10 weeks. This is a normal life history for sciatica. When a case has symptoms lasting 3 to 6 months or more, naturally one begins to wonder whether the diagnosis of true sciatica is correct. However, true sciatica may persist for some time.

The characteristic pain is not usually made worse by motion. Occasionally it is worse on lying down. In the present series there were very few cases of paresthesia and no bladder incontinence. There was nerve tenderness in 37 of 46 cases; occasionally this is noted only in the sciatic notch, along the hamstring, or in the popliteal space. The straight-leg-raising sign was noted in only 5 cases. This pain is due to stretching of the nerve. Muscle weakness was not present in three-fourths of the cases and atrophy was present only very late.

Eighty-seven cases had their tonsils removed with improvement in symptoms in 8. Of 16 cases having infected teeth taken out, 6 received relief.

The treatment consists in bed rest with the use of adequate doses of salicylates—45 to 60 grains a day. Infra-red light, 2 to 3 times a day, is usually better tolerated than diathermy, especially in the acute stages. Bed rest must be insisted upon. Of course, foci of infection must be sought and removed if possible. Usually 4 to 8 weeks will suffice to bring most cases around. The mattress should be supported by rigid boards. Extension of the leg has produced no results for Dr. Alpers. He believes that treatment is non-physiologic in any case. Morphine should never be used. Thiamin chloride is of questionable value except

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where there is known deficiency. Occasionally an epidural injection of normal saline is helpful and, of course, is somewhat diagnostic.

Dec. 4, 1940

The meeting of the society was held at 9 p. m. in the Little Theatre at Franklin and Marshall College, Lancaster. Joseph B. Cady, of the Guthrie Clinic, Sayre, spoke on "The Management of Congestive Heart Failure." Excerpts from Dr. Cady's address follow:

Congestive heart failure is not a disease in itself, but is a chronic state of myocardial insufficiency. It is best to know the etiology of heart disease, and for this a good history is needed. From this knowledge the physician can discuss prognosis intelligently with the patient's family. For example, the ultimate prognosis of congestive failure due to syphilitic aortitis is not as favorable as that caused by hypertensive heart disease. The earliest sign is usually dyspnea; the physician has missed the first chance of treatment when he waits for ankle edema.

The treatment does not lead to a cure, because the process by which the symptoms occur is not entirely reversible. However, most patients can be restored to comfort and usually to some degree of economic readjustment.

The backbone of the treatment is rest. This should often be absolute and preferably in a hospital at first. The relief of specific symptoms comes next. Sleeplessness is perhaps the most annoying symptom. Usually it is wise to give a fairly large dose of a sedative or narcotic the first night to insure a good rest and thus secure the confidence and friendship of the patient at the outset. Laxatives should be mild, but effective; usually one-half ounce each of milk of magnesia and mineral oil will be enough. It is no longer necessary to try to relieve the patient of excess body fluid by strong purges. Much better results are obtained by use of the mercurials. Oxygen administered through the B. L. B. mask with the flow meter and re-breathing device will relieve cyanosis, restlessness, mental confusion, and sleeplessness. It is an invaluable aid, and when given with this mask, the oxygen waste is much less.

The diet should be adequate and satisfying. The total quantity taken at any one time should be reduced, but specific restriction should be limited to foods that are known offenders. Fluid should be restricted to about 1500 c.c. The protein intake should be adequate.

Digitalis is the drug of choice. It increases the contractibility, decreases conductivity, and increases irritability of the heart muscle. It is of no value in auricu-

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Norristown, Pa.)



lar fibrillation due to toxic goiter, and is used with great caution in cases of congestive failure following coronary occlusion. It is quite helpful as a diuretic, but its toxic action should be watched for, the first manifestation of overdosage usually being a digestive disturbance. Other toxic effects are manifested through the cerebral system, and the electrocardiogram will show notable change.

In addition to the diuretic action obtained from digitalis, diuresis can be secured by xanthine derivatives, acid salts, hypertonic salts, and the mercurials. Fifty per cent glucose is hard to inject into the vein. It will produce an indolent slough if it escapes beyond the vein and it is thought to produce thrombi. It is better to use 20 per cent glucose as an infusion to which 7½ gr. of aminophylline has been added. Salyrgan should not be used in the presence of serious kidney damage. If the specific gravity is normal and there are no casts or red blood cells in the urine, it is usually safe to use this drug. However, the blood urea nitrogen value should also be determined. The drug is very rarely toxic, though it has been known to produce anuria. It is best used intravenously, but the intramuscular route is good also. In the form of a suppository it frequently produces proctitis. Subcutaneously, a deep indolent ulcer results. Usually the drug gives best results if used at the same time as ammonium chloride or other acid salts. As a rule, Dr. Cady starts with a first dose of ½ c.c. followed at 2-day intervals by 1 c.c. until the desired effect is obtained.

WILHELMINA S. SCOTT, *Reporter.*

LEBANON

Nov. 26, 1940

The fourth annual William Moore Guilford Clinic, held in the Good Samaritan Hospital, Lebanon, on the

one hundred and eighth birthday anniversary of Lebanon's eminent physician and oldest citizen, who passed away 2 years ago, witnessed the interesting and highly instructive discussion of "The Functions of the Normal and Abnormal Kidney," by Baldwin Lucke, professor of pathology, Arthur M. Walker, assistant professor of pharmacology, and Kendall A. Elsom, associate in medicine, all from the University of Pennsylvania. Physicians from Dauphin, Berks, Schuylkill, and Lancaster counties joined with those of Lebanon County in acclaiming this a most successful clinic.

Dr. Walker, who discussed the normal kidney, spoke of the nephron as the anatomic and physiologic unit which consists of a leash of arterial capillaries called the glomerulus and a long tubule meandering extensively through the kidney substance and finally emptying into the renal pelvis. The glomerulus is made up of an afferent vessel and a considerably smaller efferent vessel, the difference in the caliber of the vessels accounting for the high pressure favorable for filtration. The very great number of glomeruli, each with an extensive capillary surface, gives the kidney so large a circulatory area that 20 per cent of the cardiac output passes through the kidney every minute. This also is favorable to filtration. The osmosis of the blood itself is the third factor favorable to filtration. Thus the glomerulus furnishes the protein-free filtrate and the long tubule changes the filtrate to urine. This work of the tubules is just as astounding as changing water into wine.

Since it is known that about 125 c.c. of glomerular filtrate per minute passes into the tubules and between 1 and 2 c.c. of urine passes into the bladder per minute, it follows that about 99 per cent of the water has been reabsorbed. Furthermore, since glomerular filtrate contains glucose in the same proportion as the blood plasma

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and the normal urine contains none, this substance too must have been reabsorbed. Other solids such as chloride, phosphorus, and bicarbonate have also been shown to have been reabsorbed in variable degree in their passage through the tubules. Richards and Walker were the first to show that in amphibians glucose and phosphate are reabsorbed by the proximal tubules and chloride and carbonate by the distal tubules, the latter presumed by the fact that acidification was found to take place here. It has been further learned that the tubules themselves excrete some substances, notably urea, and in addition synthesize ammonia from amino-acids chiefly in response to the need for conservation of base.

Dr. Lucke, in speaking of the abnormal kidney, placed diseases of the kidney, exclusive of infections, tumors, abnormalities, etc., in 3 groups; namely, nephrosclerosis, glomerulonephritis, and nephrosis.

Nephrosclerosis was described as a sclerosis affecting the whole arterial system of the kidney and being only a part of a similar process involving the finer arterial structures throughout the body. The urine is greatly increased, of low specific gravity, and contains only a small amount of albumin and a few hyaline casts. Edema is not usually seen.

Glomerulonephritis presents an involvement of the glomerulus and an interference with the filtration process so that hematuria in varying amounts constitutes the characteristic symptom. This condition may be acute or chronic, diffuse or focal. There is progressive destruction of the glomeruli in the chronic form with replacement by fibrous tissue. With impairment in the ability to concentrate the waste products, there is

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secreted a more dilute solution of urine, accounting for the polyuria that is observed. Albuminuria in varying amounts, edema, hypertension, and nitrogen retention also appear.

Nephrosis in its "pure" or tubular form is rare. It is usually of the mixed type involving both the tubules and the glomeruli in the form of inflammatory and retrogressive changes. Necrotic nephrosis, caused by mercury or appearing during pregnancy, amyloid nephrosis following chronic suppurations such as syphilis and tuberculosis, and lipoid nephrosis, the pure tubular type, are varieties of the same basic process of degeneration. Marked and persistent edema, massive albuminuria, hyaline casts, but no hypertension or nitrogen retention are characteristic.

The mechanism by which albuminuria, hypertension, and edema are produced were explained in a very interesting manner. The normal glomerular filtrate has the same composition as the blood plasma minus protein. In disease the permeability of the glomerulus and Bowman's capsule is increased so that the blood plasma proteins appear in the urine. To account for the massive albuminuria found in lipoid nephrosis where the glomerulus has undergone no pathologic change, we must assume in addition that the plasma proteins have been altered to such an extent that their elimination from the body has now become not only possible but perhaps necessary.

The experiments of Goldblatt, by which the blood flow to the kidney was controlled in the living animal by a delicate device attached to the renal artery of both kidneys, have shown that with the development of full ischemia following the gradual reduction of blood flowing into the kidney, a substance called rennin is

formed which produces a condition of high blood pressure throughout the body.

There are 3 kinds of fluids in the body; namely, blood, lymphatic fluid, and interstitial fluid. It is the abnormal accumulation of this latter fluid that constitutes edema. There are 4 factors which account for the development of edema in renal disease: (1) Decreased colloid osmotic pressure, brought about by loss of albumin in the urine and impaired synthesis of plasma proteins, fails to draw into the vascular system the interstitial fluid which in health is thus removed; (2) increased capillary permeability which allows the plasma proteins to pass from the capillaries into the tissue spaces permits the osmotic pressure to be still further reduced; (3) decreased lymphatic drainage through increased venous pressure from a failing heart still further brings about a condition of interstitial fluid stagnation; and (4) increased capillary blood pressure which permits the escape of fluid from the capillaries into the tissues. These forces acting in varied degrees bring about the edema which is seen so frequently in these forms of kidney disease.

Dr. Elsom spoke of 2 simple office tests which could well take the place of all the complicated laboratory tests for kidney function: (1) The concentration test, by which all fluids are withheld for 24 hours and the specific gravity of the urine at the end of this period is taken. A specific gravity of 1025 or more is proof positive that the kidney is functioning normally. (2) The phenolsulfonphthalein test, by which exactly 1 c.c. is injected intravenously and the urine collected at 15, 30, and 60 minute intervals and tested to determine the amount eliminated. Normals of 35 per cent in 15 minutes, 50 per cent in 30 minutes, and 65 per cent or more

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HARRY F. GOCKLEY, M.D., *Reporter.*

LUZERNE

Oct. 9, 1940

The regular meeting was held at Wilkes-Barre with President William Baurys presiding. Philip S. Barba, Philadelphia, gave a talk on "The Care of the Adolescent Child." He said in part: In considering the subject of adolescence, we as a profession are apt to make 2 bad mistakes, first, that of considering the adolescence alone without including the preceding years, and second, that of running wild on the subject, overcome with the enthusiasm of a comparatively new field, as was true when many psychiatrists began writing on child psychology. The feeling is growing that the family physician or the pediatrician who has cared for the child through the years is the one who should guide most of these children and their families through this period. In most of the articles written by specialists, particularly by the psychiatric group, the bad effects of specialization are apt to be seen, as most of the cases they see are in the extreme group. There are few articles mentioning the normal children, who certainly make up the majority of the people. However, medical science is preserving many weaklings. The result will be a greater number of constitutionally weak persons in each succeeding generation.

The main factors to be considered are (1) anatomic or physical factors, (2) physiologic factors, (3) psychologic factors, and (4) social factors. These are interwoven in every individual. Under the first type the most striking feature is the pubertal growth spurt. It occurs just before the onset of puberty. There are 3 types of body build—the lateral build, the intermediate, and the linear or thin. These apply to both sexes. The lateral types usually get their growth spurt at an earlier age than do the thin types. The other 2 types are slower. Girls are more apt to get this growth spurt earlier than boys, as much as a year. Considered from a purely physical side and applying the action and principles of leverage, one can appreciate that the movements of the extremities will be accomplished only by muscular effort.

The cardiovascular mechanism must also be considered. There is an increased load as a result of the increased size of the person, and in many cases the heart does not grow anatomically or physiologically at the same rate as the rest of the body. Often there is a change in its position, and also a decrease in the efficiency of the system as the result of changes in the thyroid gland. Athletic activities either increase or diminish. Many adolescents enter competitive athletics at this time. At the same time they are attempting a difficult schedule, and begin experimenting with late hours, tobacco, and alcohol, none of which are conducive to perfection in body mechanics. The functional murmurs can be attributed to physical changes incident to rapid growth. In girls the development of the breasts, the growth of the uterus, and the onset of menarche will produce some decrease in efficiency. Two physiologic changes are the development of the reproductive

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organs and accompanying important endocrine changes. Other characteristics are a change of voice, of immunity to infection, of blood pressure, and of vasomotor activity. The utilization of food and storage ability vary markedly. It is necessary to vary the requirements of the child according to his needs. Some say it is the healthiest period of one's life. Some doubt this. Tuberculosis is more severe at this time of life, and diabetes is more difficult to control. Albuminuria was found in 10 per cent of 1580 girls, and mastitis is common. Thyroid disturbances are frequently manifest. Dental caries, too, is common. The craze for endocrine therapy to correct menstrual disturbances is to be deplored. Pryor found that the average age for the onset of the menses is 12.5 years. In many it occurs much later.

The basic factors of the adolescent's psychologic reactions are (1) the fundamental neuropsychic pattern and (2) the environment in which he has grown. What strong forces enter his life at this age? First is the upward surge of the reproductive instincts awakened by the maturation of the gonads, and second, the mental development which accompanies this sexual awakening. He begins now to think for himself. Nothing can be done to alter the biologic surge of sexual activity, but he can be helped by training and environment to weather the storm of new emotions. Sachs feels that maladjustments are due to faulty training and that heredity plays no part, except in a limited number of inheritable diseases, as dementia praecox. He rejects psychoanalysis for children and adolescents.

What are the parental actions which are most apt to cause behavior problems? (1) Bickering and conflict in the home give a child a sense of insecurity in the home. (2) Overanxiety of the parents, coming from the love of the offspring, provokes a bundle of fears in the child or a desire to show he is not afraid. (3) Emotional instability produces a sense of insecurity in the child or a feeling of unjust treatment. (4) Over-efficient or over-particular parents cause children to feel uncertain about themselves; they are afraid to make decisions and resent or rebel against parents ruling their lives. (5) Neglectful parents likewise cause a sense of insecurity. (6) Overseverity and harshness cause children to lie as part of the defense mechanism.

Self-consciousness promoted by a change in size, change in voice, and awkwardness will be helped by good-natured kidding, sympathy, and understanding and be made worse by sarcasm, impatience, and cruel laughter. The

personality type becomes more evident. Extroverts are always out with the gang and need to be watched. They need to be encouraged to make new friends, should be put in new environments, and should be taught and helped to express themselves. Religion becomes more objective. Their aspirations should be guided after consideration of their assets of ability, education, family dependence, and personality type.

As to sex hygiene and education, there is no rule. Such information should be given in stages as the individual needs it. Answer questions intelligently. It is the physician's duty to educate himself, the parents, and the child. The journals carry many articles on psychology and behavior which aid in our education. To educate parents is more difficult. Ascertain which is the dominating parent. The physician can determine by observation which one causes the trouble and by talking to them can often forestall difficulties. As to the education of the child, he will listen to the physician because he respects him. Responsibility for sex education is divided. An embarrassed, ignorant parent does more harm than good. The physician can explain the anatomy, etc., to the parents or to the child if questions arise. Parents often make the mistake of underestimating the intelligence of their children and overestimate their sophistication. See that mutual understanding exists, encourage self-reliance and independence, teach self-control, and allow adolescents to use their own judgment.

The danger signals which indicate that we are dealing with something more than a behavior problem are withdrawal (loss of interest in social contacts and hobbies), loss of capacity to deal with everyday tasks, emotional dulling with outbursts of irritability, and a tendency toward misinterpretation.

Most people think that adolescents are emotionally unstable, erratic, unreliable, and radical. This is not entirely true. They may be emotionally unstable where parents show emotional immaturity, but they are not radical and individualistic.

We are breaking away from the last generation which insisted upon implicit obedience to parents. In place of this we try to set up an understanding based upon friendship and respect and community of interest for the family as a whole. We must try to include the whole family and maintain its interest in the child. Teach the parents that what seems trivial to them is of great importance to their children.

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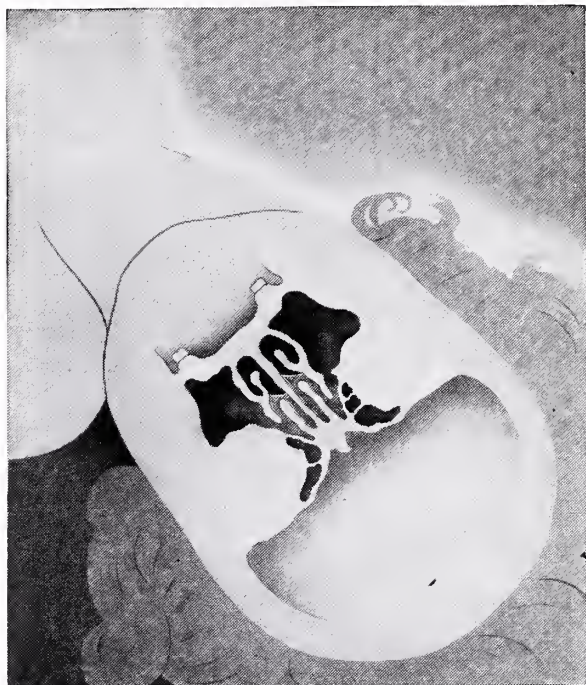
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Oct. 16, 1940

The regular meeting was held at Wilkes-Barre with President Baurys presiding. Jonathan E. Rhoads, professor of surgery, University of Pennsylvania School of Medicine, addressed the society on "Recent Data on Proteins and Electrolytes in Relation to Surgery." He said, in part, that the serum proteins are among the oldest constituents of plasma and yet their importance in clinical medicine is being realized more and more. They are important because of their osmotic properties, as they regulate the blood volume. They are important in nutrition because they constitute a complete protein for body nutrition and because their concentration is an index of the protein equilibrium of the body. The blood plasma contains the following proteins: fibrinogen, albumin, and globulin. These may be separated by precipitating them out by salts. Serum protein differs from plasma protein by its lack of fibrinogen. Albumin and globulin are of importance in nutrition. Other materials in the serum are protein in nature. Viruses, antibodies, prothrombin, enzymes, and some hormones may be some of these.

Since 1896 physiologists have known that the capillary walls acted as dialyzing membranes and that colloid osmotic pressure of the serum proteins drawing water into the capillaries was in equilibrium with the capillary blood pressure. In 1917 Epstein pointed out that the edema of nephrosis was due to the constant loss of albumin in the urine and lowering of the plasma protein concentration. Later it was found that the nutritional edemas seen in Germany and Austria were due also to the lowering of the plasma protein concentration through lack of dietary protein.

What, then, are the recent developments which have added significance to the knowledge that plasma proteins keep the circulating fluids in the vessels? All the studies on surgical shock in recent years show that diminished blood volume was a fundamental arc in the vicious circle. So if the plasma protein concentration is reduced, less water is held in the circulation and blood volume is reduced. It is hard to know if a patient has reduced blood volume in spite of a normal serum protein concentration. Dye methods are accurate but tend to stain the skin. The CO_2 method is less accurate and not suitable for routine use. We need a satisfactory method for following plasma volume. It is known that there is a labile protein reserve and one of its purposes is to maintain the plasma protein concentration. Patients who have been on a low protein intake probably have a depletion of this reserve; consequently, they are less fitted to stand shock or hemorrhage.

A special instance of the general problem of shock occurs in extensive burns. Beginning almost at once the capillaries in the region of the burn become permeable to the protein molecules of the serum and they strain the serum protein away from the cells. As the protein leaves the vessels, it takes water and electrolytes with it. This accounts for the hemoconcentration and so-called anhydrema. If plain water is given, intoxication is likely to result. If whole blood is given, the plasma drains away into the intercellular spaces in the region of the burn leaving a collection of cells which sometimes increases the viscosity of the blood. The answer to the fluid balance problem is to give sufficient amounts to keep the hematocrit below 60 per cent until the capillaries have had a chance to recover to normal.

Now consider the effect of the plasma proteins on the fluids outside the vessels. Moore and Van Slyke, in

1930, found that edema could be closely associated with the total serum concentration or with the albumin fraction. The level of serum is given as $5.3 \pm .3$ grams per cent and in terms of albumin concentration as $2.5 \pm .2$. Edema is not perceptible clinically until the volume of the part increases 8 to 10 per cent. The degree of hydration affected by the salt balance affects the tendency to edema. Thus many cases of postoperative edema have been caused by the excessive use of sodium chloride parenterally.

The influence of hypoproteinemia on cerebral edema is a matter of debate. In other sites it is definite. Post-operative edema is prone to develop in the lungs. In the omentum and gastro-intestinal tract, edema may be visible at operation. Patients with gastro-intestinal tract lesions often develop hypoproteinemia because of dietary restrictions, as in pyloric obstruction, or because of a therapeutic régime, as after gastric resection. Clinically, a majority of cases of persistent vomiting following gastro-enterostomy are due to a depression of the serum proteins. Dehydration often masks hypoproteinemia so that the concentration of the serum proteins is normal; but when dehydration is corrected, the protein concentration drops and the edema disappears.

It is the impression of many that patients with poor nutrition are more susceptible to infection than others. There is evidence that antibodies occur largely in the globulin fraction. Famine edema at the close of the war was prevalent. These victims were unable to stand cold and died of pneumonia. The deficits no doubt included vitamins as well as proteins. It is concluded that while the antibodies are associated with serum globulin and hypoproteinemia predisposes to infection, there is no clean-cut evidence that the usual degrees of the latter actually do decrease resistance.

The existence of hypoproteinemia implies a diminished blood volume and a lack of labile reserve protein.

Ways of maintaining the protein equilibrium are important. A draining empyema, nephrosis, and ulcerative colitis are examples of diseases that cause a loss of proteins. Whenever possible the oral route is preferred. It eliminates the danger of infection and reactions. If anorexia is present, bitters, whisky, vitamin B_1 , and yeast can be used to relieve it. In gastro-intestinal tract operations the oro-jejunal method of feeding is often used. The predigested materials are usually trypsin, Witte's peptone, or amino-acid mixtures. Carbohydrates, water, and salt are added. Some can be fed for 2 weeks in this way. The material can be made to drip in by gravity, giving from 1500 to 3000 c.c. Rectal or parenteral routes are employed when there is disease of the lower intestine. The administration of proteins parenterally means transfusion of whole blood or plasma. A rise in plasma proteins can be achieved by repeated transfusions. Some hospitals are giving diluted plasma by hypodermoclysis. The temporary effect is to produce local edema with withdrawal of fluid from the blood stream, but this is not recommended.

Nov. 6, 1940

The meeting was held at Wilkes-Barre with President William Baurys presiding. H. Alexander Smith and Louis W. Jones presented papers and slides on "Fractures of the Femur."

Dr. Smith said, in part, that fractures of the femur is a large subject. The method of transportation is very important. The leg should be splinted at the site

of the accident before transportation. This procedure maintains better position of the leg and saves the patient much pain and shock. Upon arrival at the hospital roentgen-ray pictures are taken and traction is steadily applied while the splint is being changed.

In fractures of the upper third of the femur the original splint is left on until the patient is placed in bed. Then the Russell apparatus is used, as it requires only one-half the amount of weights ordinarily needed. In the intertrochanteric type this kind is used during the whole treatment.

The Thomas splint is used in fractures of the shaft of the femur. If the picture is not satisfactory, then one must decide what treatment is next best. The Kirschner wire method is good when necessary. Very few complaints are heard and only a small amount of weight is needed. Fractures are often treated with Buck's extension, but this is to be condemned, especially if the fracture is oblique. Reduction of the fractures with the traction type of table is unsatisfactory. The plaster cast is now seldom used, as the parts cannot be held in place. A pressure sore often develops which causes much trouble.

Treatment of fractures of the neck of the femur by the use of nails and pins is not new. Smith-Petersen, of Boston, brought out the use of flanged nails. The methods of introducing the nails have been modified a lot. Dr. Galley, of Canada, uses the nailing and bone graft. A good reduction is necessary. These cases are handled on the roentgen-ray table. First, a picture is taken, then an incision is made on the lateral aspect of the leg, and by the use of the trans-fluoroscope the nail is placed in the proper place to

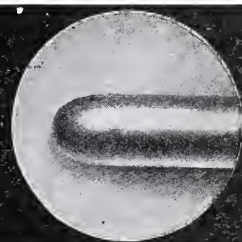
hold the parts together. These fractures are usually in aged persons. In healthy patients it is best to do the bone graft operation. The Ledbetter method is conservative and is used in about 50 per cent of Dr. Smith's cases.

Dr. Jones said that he had reviewed 96 fractures of the femur within 10 years and 30 of these were intracapsular. The average age of the patients was 61 years. Seventeen of these were treated with the Smith-Petersen nail with 2 deaths, one patient dying in 24 hours and the other 10 days after operation. Thirteen cases were treated with the spica cast. Four were treated conservatively, but died. Good bony union took place in 11 of the nailed cases. Perfect union can be obtained when reduction is done early. Callus is not seen when a fracture is reduced well. The average stay in the hospital in the nailed cases was 56 days, and in the unnailed cases it was 61 days. The nailed cases can learn to walk with the use of a walker in 5 weeks after the operation. It was necessary to remove the nails in only 3 cases, which was done without annoyance to the patients. The writer believes that internal fixation offers a better chance of union. The use of sandbags in the treatment of fractures of the neck of the femur is not satisfactory. The operation is best; it is free from shock and can be done with the use of nembutal and novocain locally.

There were 35 cases of intertrochanteric fractures; 71 years was the average age and 7 patients died. All were treated conservatively and by the Russell method of traction. They require constant care. The second method is reduction and application of a spica cast.

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ing the upper, lower, or middle third portions. Of these cases, the stay in the hospital was 74 days for 7 in the upper type, 52 days for 3 of the middle type, and 58 days for 21 in the lower third. One case had an open operation done. If there is a mild transverse fracture, manual reduction can be done and position is retained with the spica cast. If the fracture is bad, the Kirschner method should be used.

Slides were shown to illustrate the various types of fractures and treatments together with some slides of diseased bone conditions causing fractures.

In discussion, Frederick W. Heyer, Nanticoke, said he was glad to hear Dr. Smith stress the handling of fractures of the thigh in transportation. A few years ago he saw a man with severe contusion of the muscles of the thigh who promptly died from shock. He had a fractured femur. The hardest job in the nail operation is holding the parts together while the nail is being inserted. The modern fracture table is of great value in treating these cases and in taking the pictures.

MARJORIE E. REED, *Reporter*.

LYCOMING

Nov. 8, 1940

It has been the custom of this society to hold an all-day clinic meeting twice yearly. This year the meeting was held, Nov. 8, at the Lycoming Hotel in Williamsport. It was opened at 10:30 a.m. by Frederick C. Lechner, president, who introduced Lewis C. Scheffey, professor of gynecology at Jefferson Medical College of Philadelphia, who spoke on "The Office Treatment of Vaginal Discharges." An abstract follows.

In infants and young children the gonococcus is the most common cause of vaginal discharges, and should be immediately looked for. The first 2 essentials are isolation of the patient and constant cleanliness. Formerly, vaginal douches were used, but at the present time much more satisfactory results are obtained by the use of estrogenic hormones. These may be given either hypodermically or as vaginal suppositories or capsules. The capsule, because of the minimum trauma, seems to be the most satisfactory method of treatment, and the large amount of estrogens necessary, though they may cause temporary glandular changes in the patient, have not been found to do permanent harm.

Nonspecific vaginal discharges in children are usually best left alone unless the discharge is so profuse that it causes vulvar irritations and lesions, when local antisepsis may be necessary. In the adult, sulfanilamide is probably the most effective method of treating gonorrheal infections. Acute pelvic inflammatory diseases are best treated by bed rest and symptomatic therapy. Chronic pelvic inflammatory disease has been found to respond nicely to intravaginal heat. In the treatment of *Trichomonas vaginalis*, a disease whose origin is as yet not clearly understood, Dr. Scheffey has found silver picrate to be most effective. In stubborn cases which do not respond to the usual office measures, it is sometimes wise to investigate the prostatic secretion of the husband since he may have become previously infected. The acid douche has been found to be the most satisfactory. The same results can be obtained by the use of vinegar or a lactic acid solution, using a teaspoonful to 2 quarts of warm water.

Dr. Scheffey stressed the importance of constant and repeated speculum examinations in any case of bleeding abnormalities. It is inexcusable for a physician to use glandular therapy in any case of menopausal and postmenopausal bleeding unless a complete pelvic examination, with curettage, has given negative results. In other cases of bleeding, glandular therapy is largely of value, but cancer must always be considered and looked for. Dr. Scheffey discussed in detail the use of slides and the proper technic of cervical cauterization.

Dr. Lechner introduced Leonard G. Rowntree, of Philadelphia, who had chosen as his topic "Cardiovascular Diseases." Dr. Rowntree first called attention to the definite contributions made by the early pioneers in renal lesions, saying that no one has yet improved on Bright's first theory of kidney function, and if we combine the contributions of Bright and Bowman, we can see that in the years which have succeeded them we have simply clarified the picture and filled in the gaps. In the study of cardiovascular diseases, if we fully understand the functions and the lesions of the kidney, we then understand the disease, because anything that happens in the kidney is indicative of changes which must have occurred at least in part elsewhere in the body. There are many classifications of renal disease, but they may probably all be grouped under 3 heads—inflammatory, circulatory, and degenerative.

Of extreme value in the study of any vascular disease is the ophthalmoscope because here is the only place in the body where we can rightly recognize changes in the circulatory vessels. Of the many renal function tests which have been advocated, the 2 most vital are the phenolsulfonphthalein test and the urea clearance test. With these 2 tests and the ophthalmoscope we can probably recognize accurately 95 per cent of the lesions. The lesions of the glomeruli are usually secondary to acute infections, while nephrosis usually follows chronic infection. In the circulatory lesions there are the arteriosclerotic types and sclerosis of the arterioles, in which may be included the cases of spasm and of benign and malignant hypertension.

Acute glomerular nephritis is usually the result of a streptococcal infection, and although the picture is apparently grave, it proves to be only 5 per cent fatal. Chronic glomerular nephritis, on the other hand, is a disease with a high mortality and must always be regarded with respect.

Since this talk was given almost entirely from slides, it has been reported with many errors of omission, and its true value can be appreciated only by those who heard it. It was an excellent discussion of the subject.

Following luncheon, there was a discussion on "Pneumonia" by Harrison F. Flippin, of Philadelphia. He classified pneumonia as follows:

1. Specific pneumonias.
 - a. Cocci—pneumococcus, streptococcus, and staphylococcus.
 - b. Bacillary group—tuberculosis, influenza, and tularemia.
 - c. Virus group—influenza, measles, and psittacosis.
2. Systemic diseases with pneumonia—bacillary, rickettsial, and rheumatic fever.
3. Secondary pneumonias—senility and mixed infections.
4. Specific forms—oil, radiation, chemical, and allergy.

Dr. Flippin discussed his experiences at the Philadelphia General Hospital with the use of sulfathiazole, and

their general conclusions are these: Sulfathiazole is just as effective in the treatment of pneumonia caused by the pneumococcus as any other agent including sulfapyridine. It has the additional advantages of being definitely less toxic and hence can be given more widely and more routinely. In any case of suspected pneumonia it is advisable first to type the offending organism, then immediately institute treatment with a chemotherapeutic agent. Always bear in mind that serum therapy is of great value and should not be disregarded in the cases in which the drugs seem to have little effect.

Dr. Flippin's talk was extremely helpful in clarifying the present somewhat confused picture in the care of pneumonia.

Dale C. Stahle, of the Pennsylvania Department of Health, discussed the results of various forms of treatment throughout the world, with particular reference to the results obtained in Pennsylvania. Dr. Stahle called the attention of the members to the services of the Pennsylvania Department of Health, which they are eager to give to the public for the treatment of pneumonia. These services include typing and the furnishing of serums and drugs.

The meeting closed at 3:30 p.m. and was considered one of the most outstanding meetings of recent years.

EDWARD LYON, JR., *Reporter.*

WARREN

Nov. 18, 1940

This was one of the best attended meetings that have been held; 38 members and 2 guests registered.

John Lansbury, associate professor of medicine, Temple University School of Medicine, Philadelphia, delivered an address on "Arthritis." He said that he had found 40 types of arthritis listed in the textbooks, but he chose for his topic the variety known as rheumatoid or atrophic arthritis. He described in brief 5 other types of joint disease; namely, acute rheumatic fever, chronic fibrositis (often confused with the atrophic form), gout, gonococcal arthritis, and hypertrophic osteo-arthritis. These he differentiated from the atrophic form. He outlined the procedures to be followed in studying a patient affected with sore joints in order to make a proper diagnosis.

1. Obtain a careful history concerning onset, etc.

2. Search for foci of infections in various organs—teeth, tonsils, sinuses, gallbladder, appendix, prostate, and tubes. While the removal of an infection, if found, is of value in restoring health and in stopping fever, it has little influence on atrophic arthritis because so far there is no proof that this disease is an infection.

3. The sedimentation rate is of great value, as in this disease it is increased in contradistinction to that found in chronic fibrositis and the senescent or hypertrophic form.

4. A blood count, urinalysis, and the roentgen ray are aids in diagnosis.

It must be remembered that atrophic arthritis is a systemic disease and occurs at all ages, though usually in the middle-aged. There is a short period of malaise, and then the joints tend to become involved, with the condition gradually spreading to all joints. The disease is apt to affect the slender, nervous type of person. An attack of jaundice, the incident of pregnancy, a course of starvation, and purgation have produced remissions. There is atrophy of the muscles and in the tissues between the joints.

In the treatment 2 factors are important: (1) inactivate the process, and (2) prevent deformities. Rest is important, but exercise and motion of joints are necessary to overcome ankylosis. The disease is chronic like tuberculosis, and a long period of treatment is needed. Diet has little influence unless it be one of low carbohydrate. Vitamins are of little value. All violent therapy must be avoided. The value of vaccines is questionable and fever therapy is dangerous. Sulfanilamide is not beneficial.

In the past few years, gold in the form of the sodium thiosulfate has been used intravenously. Dr. Lansbury believes that it has been beneficial in 70 per cent of the cases, and has cured about 10 per cent. There has been a gain in weight, lessening of pain, and restoration of joint motion, especially in the early cases. The dosage must be carefully adjusted, as toxic effects are produced if there is undue sensitivity to the drug or over saturation. The drug was brought out several years ago as a treatment for tuberculosis under the name of sanocrysin. If toxic symptoms develop, there is no cure. Many fatalities have been reported when the initial dose was too large, when the patient had existing liver or kidney disease, or when pregnant.

Dr. Lansbury believes that this drug should be used more widely, and that someone who has studied the procedure and has the co-operation of other physicians should be available in the various medical centers. The talk was most instructive.

Resolutions pertaining to the death of a valued fellow member, Monroe T. Smith, were read and adopted. He was in active practice 51 years, 38 of which were in Warren. He served as president of the Warren County Medical Society in 1912 and again in 1926. His death was sudden, and without any invalidism.

MICHAEL V. BALL, *Reporter.*

WASHINGTON

May 8, 1940

After the usual dinner, served in the Oval Room of the George Washington Hotel, Washington, the society was called to order by President Clarence J. McCullough at 8:25 p.m.

The speaker of the evening was James H. Corwin, Washington, who spoke on the subject, "Treatment of

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Fractures." He referred to the lessons he has learned from personal experience in the treatment of fractures. He said that when a bone is fractured, the injury is not limited to the bone itself. The skin, soft tissues, muscles, nerves, ligaments, blood vessels, and joints, as well as the periosteum, may also be injured.

The fracture of a bone is a serious thing for a patient, both physically and (usually) economically. Many fractures lead to lifelong disability. Any fracture has a permanent effect on the bone.

The speaker mentioned the great importance of proper first-aid treatment in fractures, including asepsis. He also mentioned the danger of causing additional trauma by unskillful handling of the patient. He stressed the desirability of educating the public along these lines, and of having splints readily available in suitable places.

Early treatment of all fractures is most important. By early reduction, swelling and pain may be avoided. Every fracture is an acute emergency. Roentgen rays are indispensable. The choice of treatment is most important.

There are 3 steps that lead to satisfactory recovery: (1) Reduce the fracture under anesthesia. (2) Keep the fracture reduced. This involves a daily study of its position. (3) Seek the rehabilitation of the patient after the fracture is healed. Open reduction should be avoided wherever possible, but may be necessary at times.

A number of roentgen-ray films of fractures and end results were then shown.

Thirty-one members and 2 interns were present at the meeting.

June 20, 1940

For the June meetings of their respective societies the Cambria and Washington County Medical Societies were invited to attend the Eleventh Councilor District

meeting held on the above date at Johnstown. A very enjoyable and successful meeting was held, which was fully reported in the August number of THE PENNSYLVANIA MEDICAL JOURNAL (page 1606) by Councilor Laurie D. Sargent.

Sept. 11, 1940

Twenty-four members were present at the pre-meeting dinner in the George Washington Hotel, Washington. President McCullough called the scientific meeting to order at 8:10 p.m., presenting Carl J. Wiggers, professor of physiology, Western Reserve University School of Medicine, Cleveland, who spoke on "The Problem of Ventricular Fibrillation, Its Prevention and Cure."

Dr. Wiggers said, in part, that ventricular fibrillation is an inco-ordinate type of contraction which, despite a greater metabolism, produces no useful beats. Consequently no blood is expelled, blood pressure falls promptly to zero, and death occurs in 6 to 8 minutes due to anemia of the brain. It is the most usual cause of sudden death due to coronary occlusion, accidental electrocution, and frequently terminates life in toxic action of many drugs, chloroform, cyclopropane, benzol, digitalis, potassium, barium, adrenalin, etc. It can occur from bullet or arrow wounds of the heart, a mere mechanical touch surgically, and from blows upon the chest.

Since its first description by Ludwig in 1850, the subject has been studied intensively in laboratories, but it required a generalized use of electrocardiographs to realize its clinical importance. The following 4 problems were discussed in the lecture on the basis of personal work:

The Nature of the Process.—Slowed motion pictures and electrocardiograms show that fibrillation is not a static condition but that it evolves through a series of stages in which the inco-ordination involves blocks of myocardium which rapidly decrease in size and character of contraction as the anoxia of the myocardium—due to absence of a coronary flow—increases. Such observations favor the view that fibrillation is not due to multiple focal stimulation (Rothberger) nor to a single excitation ring (Lewis) but to the progressive formation of more and more separate rings of excitation.

The Initiation of Fibrillation.—All evidence points to the view that ventricular fibrillation is induced only when an effective stimulus (electrical, mechanical, chemical, or physiologic) strikes during the last moments of systole (.05-.06 seconds), called the vulnerable period. The apparently spontaneous fibrillation following coronary occlusion is due to the release of an ectopic impulse from a ventricular focus during a vulnerable moment because the fibrillation threshold is greatly reduced through ischemia of even a few minutes' duration.

Defibrillation and Resuscitation.—This is possible repeatedly in dogs with exposed hearts by the Hooker method of countershock, modified (a) by giving preparatory cardiac massage and partial digital compression of the aorta, thus flooding the myocardium with oxygenated blood, and (b) by a serial application of current. The method is not at present hopeful for revival of patients except when already on the operating table, and the heart has been exposed.

Prophylactic Desensitization of the Heart.—Present experimental methods for testing the usefulness of drugs and procedures in rendering the ventricles less sensi-

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tive to fibrillating agents are not decisive. A new procedure has been developed which consists in introducing a brief measured shock during the vulnerable period.

The talk was supplemented with several rolls of film.

The Committee on Premarital Examinations recommended a minimum fee of \$3.00 each for the physical examinations and \$3.00 for each of the blood tests. This was adopted by the society.

Milton F. Manning, reporting in regard to the Committee of National Physicians, said he had interviewed Walter F. Donaldson, State Society secretary, who stated that the society members could either contribute individually or as a body. No action was taken.

The meeting adjourned at 10 p.m. Fifty-one members, 2 interns, and 3 visitors were present.

ROBERT W. DUNLAP, *Reporter*.

YORK

Nov. 16, 1940

Oren W. Gunnet, president, presided. Thomas P. Sprunt, professor of clinical medicine, University of Maryland Medical School, Baltimore, spoke on "Physical Therapy in Internal Medicine." He said in part:

Medicine may well be proud of her recent therapeutic accomplishments. It is obvious that we have come far from the period of therapeutic nihilism so well exemplified in the Vienna school of a hundred years ago.

Methods at present, as evidenced by the Council on Physical Therapy of the A. M. A., recommend these fundamentals: massage, active and passive exercise, muscle training exercises, and application of various forms of heat. As a corollary, one may add that a well-trained and skillful technician, intelligently directed, is of much more value than costly apparatus.

The various ranges of electromagnetic rays were mentioned—from the shortest rays known as cosmic rays to the gamma rays of roentgen ray, and after a relatively unknown gap the ultraviolet or chemical rays, with a wave length of 360 to 370 millimicrons, followed by the broad band of infra-red or heat rays. Alternating current waves and the other electromagnetic rays as used in various physical therapy modalities were also cited.

The speaker outlined the many different tissues and parts of the body which, when exposed to physical therapy methods, are affected by these rays, but stated that the most acceptable of all these tissues is the skin. It is occasionally forgotten that the skin is not merely an integument but a complex tissue with many functions. It comprises the sebaceous glands, the blood vessels, the lymph vessels, the sweat glands, nerves and nerve endings, with the sources of sensory impressions and of reflex activities, and the mechanism of temperature regulation of insensible perspiration. Then, there are other metabolic or chemical factors under which may be mentioned resorption, pigment formation, the histamin-like substance, ergosterol, and the high potential of tissue immunity.

The speaker then discussed the various reactions to which the complex structure known as the skin reacts both from within and from without when stimulated. Stimulation of the skin yields 3 distinct events: pri-

mary and local dilatation of minute vessels; widespread dilatation of neighboring strong arterioles brought about through the local nervous reflex; and local increased permeability of the vessel wall. The histamin-like substance which is released is probably a normal metabolite which is responsible for many of the normal vascular reactions such as those occurring under stress.

Many of the procedures in physical therapy involve the use of heat. There are many temperature gradients that may be modified by the application of additional heat, such as conduction by hot water bottle or hot bath; convection, as hot air; radiation, as from a sun or therapeutic lamp; and conversion, whereby electrical energy is converted into heat within the tissues of the body, such as by diathermy. The whirlpool bath is for the hand, arm, foot, and lower leg, whereas diathermy is useful for deep heating of larger joints and the trunk. There are marked variations in the blood flow as a result of heat or cold. Various experiments have been tried in physical therapy by applying heat or cold.

In general febrile illnesses the reduction of fever or the promotion of the patient's comfort may be accomplished by hydrotherapeutic procedures, such as sponges, compresses, or tub baths. The treatment of boils, carbuncles, and deep-seated abscesses by means of diathermy has been of great interest since the advent of the short wave machine. The use of short wave diathermy and infra-red heat is of great value in the treatment of upper respiratory infections.

The use of ultraviolet is an effective means of combating the extension of erysipelas and of treating extrapulmonary forms of tuberculosis and similar infections. Rickets, infantile tetany, and osteomalacia yield satisfactorily to the ultraviolet ray. Recently, the speaker tried the application of this modality in the treatment of nontropical sprue or the so-called idiopathic steatorrhea, where there is difficulty primarily in the absorption of fats from the intestinal tract, including vitamin D.

Of patients with heart disease, those convalescing from congestive failure are frequently treated satisfactorily with mild heat and mild stroking massage of the extremities for the immediate effect of promoting venous flow and in helping to restore muscle tone. In the treatment of peripheral vascular disease, various physical therapeutic measures are used today more in the light of hopeful interest than of high enthusiasm.

In the practice of psychiatry, hydrotherapeutic measures are helpful. These include stimulating modalities such as showers, cold sponges, the Scotch douche, the continuous tub bath of neutral temperatures, and the cold pack. Neurologic patients should be considered for attempted rehabilitation, particularly those with rheumatic disorders, as they respond fairly well to physical therapy methods such as massage, active and passive exercise, muscle training, and heat application. Rheumatism is by far the most common chronic disease in the United States and ranks second in producing both temporary and permanent disability. The speaker stressed the fact that the treatment of these patients is made successful by constantly being alert to the importance of not only keeping up the patient's circulation and the functions of the joints and muscles but keeping up his courage, optimism, patience, and morale.

JOHN J. CONROY, *Reporter*.

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MRS. GEORGE C. YEAGER, *Editor*
1419 E. Susquehanna Avenue
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PRESIDENT'S LETTER

DEAR FRIENDS:

When you read this, Christmas will be a happy memory and with it, the surprises and confusion that go along with the Season's activities. In homes throughout the nation, families were gathered together in joyous Yuletide sentiment.

Our own festivities, as physicians' families, were interrupted many times because of our husbands being called to usher in a new life or to save a beloved one for some family. The Christmas spirit of sacrifice and help is not peculiar to this season to them, because it is the continual call of this profession at all times. No one knows it quite so well as the physician's wife. So, we celebrate and give thanks for the bits of time we can enjoy with our busy husbands. If our law-makers could realize the snatches of pleasure our husbands get with their families and friends, perhaps they might be a bit more lenient in the demands they make of them. In their physical effort to save lives, these physicians have little time or energy to spend in protecting their profession from political wedges which will eventually affect the intimate relationship of patient and physician.

We are now in a New Year. Many homes are disrupted because of the "call to arms." As auxiliaries, we must keep our hopes high and our banners waving. Through concerted effort on the part of all, physicians' wives can be mobilized in our auxiliary and so strengthen the ideals and standards of the medical profession.

We welcome into our organization 2 new auxiliaries—one in Crawford County and one in Northumberland. These organizations give us new enthusiasm. We wish for them and their members the same joys of companionship which we all have enjoyed so much in our own association with the auxiliary.

My best wishes for your continued success in your particular section of the state. Let us make this year an inspiring one for each member and

a pillar of strength upon which the medical profession can depend.

A happy and successful year to you all.

Sincerely yours,

MARY (MRS. MAXWELL) LICK, *President.*

BUDGET

EXPENDITURES FOR 1939-40

President's fund	\$475.00
President's fund for National Convention	59.75
State convention fund	500.00
Medical benevolence fund	300.00
Stenographer for president	150.00
Dues to National Auxiliary	733.00
District Councilor chairman	177.63
District councilors (\$22.83 expense for 1938-39)	175.13

Committee Chairmen:

Exhibits	\$6.38
Exhibits for 1938-39	5.11
Legislative	36.36
Hygeia	17.35
Hygeia for 1938-39	4.75
Necrology	34.00
Nominating	23.50
Program	7.94
Public relations	55.67
By-laws	6.30

197.36

Office expense 187.48

Miscellaneous:

Auditing books	\$25.00
Bonding treasurer	5.00
Room for midyear board meeting	5.00
Stenographer for midyear board meeting ..	5.00

40.00

Medical benevolence to Dr. Donaldson 25.00

Total \$3,020.35

RECOMMENDED BUDGET FOR 1940-41

President's fund	\$525.00
President's fund for National Convention	50.00
State convention fund	500.00
Medical benevolence fund	400.00
Stenographer for president	150.00
Dues to National Auxiliary	725.00
District councilor chairman	200.00
District councilors	175.00
Office expense	225.00
Roster	200.00

Committee chairmen:

Publicity	\$10.00
Necrology	20.00
Public relations	100.00
Legislative	100.00
Archives	5.00
Exhibit	25.00
Program	25.00
Hygeia	25.00
Nominating	25.00

335.00

Miscellaneous 75.00

Total \$3,560.00

INCOME FOR 1939-40

Balance in treasury, Sept. 1, 1939	\$1,631.08
Income from mortgage bond	55.50
County dues	2,932.00
Medical benevolence from Greene County	25.00

Total	\$4,643.58
Income for 1939-40	\$4,643.58
Expense for 1939-40	3,020.35

Balance in treasury, Sept. 1, 1940	\$1,623.23
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ESTIMATED INCOME FOR 1940-41

Balance in treasury, Sept. 1, 1940	\$1,623.23
County dues	2,900.00
Interest on mortgage bond	55.50

Total	\$4,578.73
Estimated income	\$4,578.73
Recommended budget	3,560.00

Balance	\$1,018.73
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MRS. JOHN R. DAVIES,
MRS. WALTER F. DONALDSON,
MRS. JOHN F. McCULLOUGH, *Chairman.*

COUNTY AUXILIARY REPORTS

Allegheny.—On the night of Nov. 20, 1940, the members of the Allegheny County Medical Society visited the Fall Flower Show at Phipps Conservatory in Schenley Park, Pittsburgh. The physicians and their families attended in a group and were conducted through the gardens by guides.

The show this year had 13 complete gardens, which were declared to be among the most beautiful and complete in the world. There were 30,000 plants in the exhibit and 300 different varieties on display. This year 83 new varieties were added to the collection. Those who visited the show were charged a small fee of 25 cents to defray the cost of lighting and to increase the fund for new plant acquisition.

The beautiful Schenley Park Conservatory was presented to the city of Pittsburgh by Mr. Henry Phipps in 1893, and for nearly 50 years this institution has been meeting the needs of those who are interested in rare plants and lovely flowers. For a time this great conservatory was in a state of neglect, and many of the valuable plants were lost. Then came a group of civic-minded citizens under the leadership of Mrs. James D. Hailman, who started a movement to rehabilitate the conservatory and place it in the forefront of the great conservatories of the world.

Today this aim has been accomplished. This conservatory is a place of peace, beauty, and relaxation in a busy city and in a war-wrecked world.

Bedford.—On the evening of Dec. 5, 1940, the auxiliary enjoyed a steak dinner with the physicians of the county at the Pennsylvania Hotel in Bedford. After the dinner the 2 groups met in the Roof Garden to see a film, "When Bobby Goes to School," emphasizing the need of a thorough medical examination for every child before attending school.

Following the picture, the ladies of the auxiliary held a separate meeting. Guest speakers were Mrs.

Margaret S. Cramer, district supervisor of the Child Health Committee, of Harrisburg, and Mrs. Grace Brinton Moore, of the Pennsylvania Birth Control Federation, with headquarters in Philadelphia.

Mrs. Cramer presented the work of the Child Health Committee in Pennsylvania, and urged that a committee be formed to carry on the project in Bedford County, under the direction of the state and county medical societies.

Mrs. Moore very effectively explained the program of the Birth Control Federation, and emphasized the tremendous need of education for planned parenthood, especially among the women of the middle class, as well as those of the lower income groups.

A lively discussion followed these very interesting talks.

The president, Mrs. George S. Enfield, announced that another meeting would be held some time in February.

Berks.—In honor of Mrs. Maxwell Lick, of Erie, State Auxiliary president, a luncheon was held by the auxiliary on Nov. 11, 1940, at the Wyomissing Club, Reading. Appropriate to November and Armistice Day, the decorations were autumn fruits and leaves and American flags.

The doxology was sung by the 66 members and guests, and soft marimba, accordion, and piano music was delightfully rendered by 2 young artists.

Mrs. Ralph L. Reber, the president, welcomed the guests and introduced the women at the speakers' table. The business meeting was opened with the national anthem. Sixty-six subscriptions to *Hygeia* were reported, one new member was welcomed, and 247 garments were contributed by 49 members to the Needlework Guild.

Mrs. Reber presented Mrs. Lick, who expressed appreciation of her corsage and happiness on being with the Reading group.

The meeting closed with the singing of "God Bless America."

Four members of the auxiliary attended the reciprocity luncheon of the Lehigh County Auxiliary in Allentown.

Blair.—The auxiliary held its first meeting of the season on Oct. 28, 1940, at the Hotel Penn Alto, Altoona, with 25 members in attendance.

A luncheon preceded the business meeting, at which time 2 new members were introduced. Following the routine reports of the secretary and treasurer, the 5 members of the auxiliary who attended the convention in Philadelphia outlined the high lights of the convention program. It was decided that we would use the articles in the Bulletin for an open forum at our January meeting. At this meeting it was also planned to entertain the new members with a special party.

The nominating committee then gave their report and the following officers were elected and installed: President, Mrs. L. Clair Burket; vice-president, Mrs. Josiah

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F. Buzzard; secretary, Mrs. D. Gordon Burket; and treasurer, Mrs. George E. Alleman.

Clearfield.—Dinner was served to the Clearfield County physicians, the Woman's Auxiliary, and guests at the Philipsburg Nurses' Home, Nov. 7, 1940, at 6:30 p.m.

Following the dinner and entertainment by "Con" McCole, of Wilkes-Barre, a short business meeting was held, presided over by the president, Mrs. Harry G. Shaffer. The minutes of the spring meeting were read and a report was given by Mrs. William E. Reiley, secretary.

Mrs. Maxwell Lick, of Erie, state president, and Mrs. Walter Orthner, of Huntingdon, were guest speakers.

Crawford.—The physicians of Crawford County entertained their wives at the October dinner meeting held at the Titusville Country Club. After dinner Mrs. James H. Delaney, of Erie, and Mrs. Howard A. Power, of Pittsburgh, spoke to the ladies concerning the organization of an auxiliary. The suggestion was well received and first steps were taken to organize with 3 officers elected: President, Mrs. Luther J. King, Meadville; secretary, Mrs. H. Paul Bauer, Meadville; and treasurer, Mrs. Herman H. Walker, Linesville.

The November meeting of the auxiliary was held at the Town House in Meadville. Mrs. John M. Kinnunen and her hospitality committee had arranged a dinner for 30 members and guests. An attractive speakers' table was set for 12 including Mrs. King, our president, Mrs. Maxwell Lick, state president-elect, Mrs. James H. Delaney, district councilor, and Mrs. John F. Hartman, president of the Erie County Auxiliary, who wore corsages of white chrysanthemums and red roses. After dinner Mrs. Lick gave a very inspiring talk and Mrs. Delaney added a few remarks. We are very grateful to Mrs. Delaney for her gracious counsel and guidance in starting our auxiliary off "on the right foot."

Mrs. King resigned as president and accepted the office of first vice-president. Other officers elected were: President, Mrs. Vincent G. Hawkey, Meadville; president-elect, Mrs. John M. Kinnunen, Meadville; corresponding secretary, Mrs. John G. Beck, Titusville; and second vice-president, Mrs. Kenneth A. Hines, Meadville. Mrs. H. Paul Bauer, secretary, read the by-laws which were compiled by a committee under the leadership of Mrs. Maurice T. Leary. With the help of Mrs. Lick and Mrs. Delaney, the members corrected, amended, and accepted the by-laws.

The meeting was then turned over to our new president, Mrs. Hawkey, who gave a very delightful informal talk and asked for co-operation in this year's work.

Delaware.—In spite of inclement weather, the visit of our state president, Mrs. Maxwell Lick, on Nov. 14, 1940, was a busy and enjoyable time. Those of our members who were so unfortunate as to not attend our meeting that evening missed an interesting talk by Mrs. Lick and a delightful group of motion pictures of Pennsylvania scenery and wild game furnished by the Pennsylvania Game Commission.

We very much regret that Mrs. E. Arthur Whitney has found it necessary to resign as our district councilor. Mrs. Whitney has been most faithful and conscientious in this position and Delaware County is

proud of her. She has been succeeded by Mrs. J. Treichler Butz, of Allentown.

Our annual card party at the Rolling Green Golf Club on Nov. 20 was all we had hoped for in attractiveness and sociability. A substantial sum was realized for the Medical Benevolence Fund.

We have added 4 new members to our rolls this month.

Jefferson.—The auxiliary held an interesting meeting at the Elks' Club in Punxsutawney, Nov. 14, 1940, at 4 p.m., with Mrs. John A. Tushim, president, presiding.

Our organization is new and is working very hard to develop into a large auxiliary.

Plans have been made to hold the December meeting in Brookville, and we are looking forward to obtaining new members from that group of ladies. A tea has also been planned for the January meeting and each member has promised to bring a prospective member with her.

Lackawanna.—On the afternoon of Nov. 29, 1940, the auxiliary had a most successful card party, the proceeds of which were given to the Medical Benevolence Fund. Miss Gretchen Houser, entertainment chairman, was in charge, assisted by her co-chairman, Miss Christine Houser.

As at all the "Houser parties," the refreshments and decorations were delightful. Individual table prizes were silver jelly servers. Scarlet geraniums and white tapers in silver containers decorated the tea table, at which Mrs. Louis A. Milkman and Mrs. Daniel E. Berney presided. There were also 8 attractive door prizes. Approximately 75 attended.

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Lehigh.—On Tuesday, Nov. 12, at noon, about 75 members and guests were entertained at the Hotel Traylor, Allentown. The occasion was the annual fall luncheon with Mrs. Maxwell Lick, of Erie, newly-elected president of the State Auxiliary, as guest speaker. Mrs. Lick brought an inspiring message and outlined the important projects to be carried on during her administration.

Mrs. Elmer H. Bausch, president, was in charge of the meeting, held in the Jade Room. An autumn theme of fruits and vegetables was carried out in the attractive decorations.

Mrs. J. Treichler Butz, of Allentown, newly-appointed councilor of the Second District, made her first official visit before the auxiliary of which she was past president. Mrs. Bausch announced the change of the fiscal year in order to conform with that of the State Auxiliary.

Guests from neighboring county auxiliaries were introduced. They included: Northampton, Mrs. Jacob A. Fraunfelder, Nazareth, president, and Mrs. Clarence D. Hummel, Easton, secretary; Berks, Mrs. Ralph L. Reber, president, Mrs. William F. Krick, national *Bulletin* chairman, Mrs. Clarence E. Goode, *Hygeia* chairman, and Mrs. Frank G. Runyeon, treasurer, all of Reading.

Philadelphia.—On Nov. 12, 1940, the auxiliary held its regular meeting at the County Medical Society Building, starting with a "dessert luncheon" at 12 noon.

Dr. Philip F. Williams, chairman of the Committee on Maternal Welfare of the county society, brought us a wonderful message, followed by another splendid talk by Dr. Douglas Macfarlan, chairman of the Committee on Conservation of Hearing.

Dr. and Mrs. S. Dale Spotts entertained with their outstanding pictures and lecture "Westward Ho!" These pictures were in technicolor with sound effects and music.

On Nov. 15 we had our first card party and realized about \$288. It was a splendid, sociable affair.

The first Junior Dance of the season was held at the County Society Building on Saturday, Nov. 16.

Schuylkill.—The members of the auxiliary were delighted at this month's meeting, to hear that the sum of \$111.50 had been realized for the Medical Benevolence Fund for this year. The meeting was held in the Necho Allen Hotel, Pottsville, on Nov. 19, 1940. An evening meeting was called at 9 o'clock due to the fact that the men were meeting at the hotel at the same hour to hear Dr. Chauncey L. Palmer, of Pittsburgh. Thirty-two women were present.

Mrs. Waldemar T. Fedko, of Gordon, was chairman of the committee in charge of the recent dance at the Fountain Springs Country Club, at which affair the money was realized for the Medical Benevolence Fund.

The usual committee reports were heard with Mrs. Charles V. Hogan, Pottsville, in charge, and plans were again made to distribute toys among the children

in the hospitals. An interesting and friendly letter from the state president was read and plans were made for her annual visit.

After the business session, a social time was enjoyed when bingo was played and refreshments were served. The meeting was a most enjoyable one.

York.—The members of the auxiliary were entertained at a delightful tea on Tuesday afternoon, Nov. 12, 1940, at the home of Mrs. Herman A. Gailey. Assisting Mrs. Gailey were Mrs. Charles Eisenhower, Mrs. James H. Howard, Mrs. Norman H. Gemmill, Mrs. W. Frank Gemmill, Mrs. Boyd E. Gamble, and Mrs. Eli Eichelberger.

Mrs. Ada Snyder, sewing chairman, reported that 29 baby blankets had been made by members at the York Hospital. She asked the members to meet on Tuesday, Nov. 19, from 2 to 4 p.m. in the hospital rooms to sew.

It was planned to hold the annual Christmas party on Tuesday, Dec. 10, at 2 p.m., in the Professional Building, York.

DEPRESSION FAILED TO HARM PUBLIC HEALTH

Early in the 1930's it was feared that the most severe industrial depression of a generation would be quickly reflected in an increased death rate. Yet each year registered a more favorable mortality rate than had prevailed during the twenties. Many health workers feared that the ill effects on the public health were merely postponed and that a rise in the death rate would occur well before the close of the thirties. However, as shown by the country's mortality records, which give a record new low rate for the current year, it may now be stated that these were idle fears which can be entirely dismissed.—*Modern Medicine*, October, 1940.

CORPSE'S YELL HALTS STUDENT

When a medical student at the Anatomical Institute of the University of Mexico City touched the chest of a supposed dead man with the dissecting knife, the "corpse" sat up and yelled "You fool, you are hurting me." The student almost collapsed as his subject explained that he was a farmer and that the last he remembered was drinking to celebrate a friend's birthday anniversary. He fell in the street and as he showed no life at a hospital he was taken to the morgue where he was left 72 hours. Still covered with a canvas he was taken to the Institute for dissecting. The revived "corpse" walked unsteadily to an adjoining hospital. The student, suffering from a severe attack of nerves, had to be carried to the hospital on a stretcher.—*Canadian Doctor*.

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MEDICAL NEWS

Births

TO DR. AND MRS. CHARLES W. SMITH, of Harrisburg, a daughter, Nov. 23, 1940.

TO DR. AND MRS. WILLIAM S. BUTLER, of Wellsboro, a daughter, Nov. 23, 1940.

TO MR. AND MRS. WILLIAM BINDER, a son, Oct. 16, 1940, at the Abington Hospital. Mrs. Binder is the daughter of Henry D. Reed, M.D., of Pottstown.

Marriages

MISS GRACE KUSUPOLOS to August C. Pavlatos, M.D., of Lancaster, in October, 1940.

MISS ELIZABETH ANN McPHERSON to Edward H. Connor, M.D., of Meadville, Nov. 20, 1940.

MISS MARIE AUSTIN, of Exeter, to Bernard S. Androsky, M.D., of Pittston, Nov. 16, 1940.

Miscellaneous

THE FORTY-NINTH ANNUAL MEETING of the Pennsylvania Tuberculosis Society will be held in Erie on April 16 and 17, 1941.

THEODORE L. HAZLETT, M.D., of Pittsburgh, has been chosen president-elect of the American Association of Industrial Physicians and Surgeons.

ESMOND R. LONG, M.D., of Philadelphia, has been chosen president of the American Association of the History of Medicine. The next annual session will be held at Atlantic City, May 4-6, 1941.

AT A RECENT MEETING of the Pennsylvania Heart Association held in Philadelphia, the following officers were elected: President, Harold L. Tonkin, M.D., Williamsport; vice-president, Laurrie D. Sargent, M.D., Washington; and secretary-treasurer, Francis C. Wood, M.D., Philadelphia.

A VERY ACCEPTABLE CANCER FORUM was presented to the general public Nov. 25-26, 1940, at the Bellevue-Stratford Hotel, Philadelphia, by the Women's Auxiliary of the Lankenau Hospital Research Institute for the promotion of cancer research, assisted by District No. 1, Pennsylvania State Nurses' Association.

AT THE STATED MEETING of the College of Physicians of Philadelphia, held in the hall of the college, 19 S. 22nd Street, Philadelphia, Dec. 4, at 8:30 p.m., the fifty-third Thomas Dent Mütter Lecture entitled "Recent Studies in the Circulation of the Portal Bed and of the Spleen in Relation to Splenomegaly" was given by Allen O. Whipple, M.D., professor of surgery, College of Physicians and Surgeons, Columbia University.

DR. BORZELL HONORED.—A testimonial dinner in honor of Francis F. Borzell, M.D., president of The Medical Society of the State of Pennsylvania, was given at the Aesculapian Club, Philadelphia, on Nov. 10, 1940. The principal speakers were Edward L. Bortz, M.D., president of the Philadelphia County Medical Society, Robert P. Sturr, M.D., president of the Aesculapian Club, and William F. Morrison, M.D., who spoke on behalf of the past presidents of the club. Dr. Borzell was presented with a handsome token of esteem from the members of the organization. About 75 guests were present.

Deaths

ALEXANDER MACLEOD BROWN, Franklin; University of Pennsylvania School of Medicine, 1898; aged 72; died Nov. 26, 1940. Dr. Brown had been in ill health for several years, and was not in active practice. He was born in Pleasantville, May 8, 1868, a son of Alexander W. and Minerva (Mitchell) Brown. He received his education at the Pleasantville and Titusville schools, the Hill School of Pottstown, and was graduated from Amherst College in 1892. Dr. Brown served his internship at the Atlantic City (N. J.) Hospital, followed by a residency at the Bedford Springs Hospital and the Altoona Hospital. He pursued graduate studies at various times in the United States, Paris, and London. His fraternity was Delta Kappa Epsilon. Dr. Brown began the practice of his profession at Franklin, in which he was actively engaged until 1935. For 20 years he took his turn with other Franklin physicians in giving more than a month's service each year to charity patients in the Franklin City Hospital. He was a member of his county (past president) and state medical societies and a Fellow of the A. M. A. In 1905 Dr. Brown was married to Helen Heydrick, who with a son survives.

MARY JARDINE EVANS, Philadelphia; University of Pennsylvania School of Medicine, 1935; aged 44; died at her home Nov. 6, 1940. Dr. Evans was born in Philadelphia, Sept. 28, 1896, the daughter of Richard J. and Jane (Alcorn) Evans. She was graduated from the University of Pennsylvania in 1917. Dr. Evans served her internship at the Philadelphia General Hospital, followed by a residency at the Philadelphia State Hospital for Mental Diseases in 1938. During that year she began private practice in Philadelphia. She was senior bacteriologist at the Philadelphia General Hospital from 1918 to 1929, when she became associate professor of bacteriology and immunology at the Woman's Medical College Hospital, Philadelphia. Dr. Evans was a member of her county and state medical societies and the A. M. A., the American Society of Pathologists, the New York Academy of Sciences, and the American Society of Bacteriologists. Her mother, Mrs. James Ferguson, survives.

PHILIP FRANCIS HICKEY, Smethport; St. Louis University School of Medicine, St. Louis, Mo., 1933; aged 31; died Sept. 19, 1940. Dr. Hickey was born in McKeesport, July 3, 1909, a son of James W. and Theresa (Haughey) Hickey. He received his pre-medical education at Notre Dame and Duquesne Universities. His internship was served at Mercy Hospital, Pittsburgh, 1933-35. Dr. Hickey began the practice of medicine at Burgettstown, remaining there one year. He spent the following year in a CCC Camp at Cherry Springs. Since then he had practiced at Smethport. Dr. Hickey was on the staff of the Kane Community Hospital. He was a member of his county (director and chairman of Program Committee for 1939-40) and state medical societies and a Fellow of the A. M. A. He was married to Mary Virginia McMichall in 1936. His widow, a son, and a daughter survive.

PERCY DANIEL HOOVER, Waynesboro; University of Pennsylvania School of Medicine, 1899; aged 69; died Nov. 14, 1940. Dr. Hoover was born in Waynesboro, Aug. 27, 1871, a son of Daniel and Elizabeth (Newcomer) Hoover. He attended the local public schools, Hagerstown (Md.) High School, and Gettysburg Academy, and was graduated from Gettysburg College

in 1895. Dr. Hoover began the practice of medicine at Waynesboro, and was on the staff of the Waynesboro Hospital. He was a member of his county and state medical societies, the Cumberland Valley Medical Society (treasurer), the Waynesboro Academy of Medicine, and a Fellow of the A. M. A. Dr. Hoover was secretary of the Board of Trustees of Gettysburg College, and president of the Alumni Council of Alpha Upsilon Chapter of the Alpha Tau Omega Fraternity of Gettysburg College. He received the college award of merit in 1938. He was also trustee of the Evangelical Lutheran church of Waynesboro; a member of the Acacia Lodge A. F. and A. M., Harrisburg Consistory; Continental Commandery, Knights Templar; George Washington Chapter, Royal Arch Masons; Zembo Temple A. A.; O. K. Knight of Pythias; and the Masonic Club of Waynesboro. Dr. Hoover was married to Florence De Ford Hoover in 1907. His wife and a daughter survive.

WALTER WILLIAM PROPST, Scranton; University of Pennsylvania School of Medicine, 1916; aged 55; died at his home of pneumonia, Oct. 11, 1940. Dr. Propst retired in 1937 owing to ill health. He was born in Archbald, Aug. 18, 1885, a son of Mr. and Mrs. Peter Propst. He received his early education in the local public schools, and was graduated in 1908 from the Perkiomen Seminary and in 1912 from Lafayette College. He was an outstanding football player at both institutions. Dr. Propst served his internship at the Kensington Hospital for Women, Philadelphia. During the World War he served in the U. S. Army medical corps and retired after 2 years with the rank of captain. After his return to Scranton Dr. Propst served at various times as chief of the surgical staffs of the West Side, State, and Mercy Hospitals. From 1924 until his retirement, he was chief consulting surgeon at the Mid-Valley Hospital. Dr. Propst was a member of his county (president, 1933) and state medical societies and a Fellow of the A. M. A. He was also a member of the American Legion and the Board of directors of the Peckville National Bank. His wife, a daughter, a son, his parents, and a brother survive.

CHARLES WESLEY RICE, Northumberland; Medico-Chirurgical College of Philadelphia, 1902; aged 61; died of bronchopneumonia at the Mary M. Packer Hospital, Sunbury, Nov. 24, 1940. Dr. Rice was born at Port Royal, Jan. 7, 1879, a son of James M. and Mary (Zug) Rice. He attended Port Royal High School and Academia Academy. Dr. Rice pursued graduate studies at various times at the University of Pennsylvania School of Medicine. He began the practice of medicine at Lewistown in 1902, and moved to Brockway in 1905. From 1908 until his death he practiced in Northumberland. At the Mary M. Packer Hospital, Sunbury, he was head of the pediatrics staff, and also had one of the medical services. He was a member of his county and state medical societies, the Pennsylvania Heart Society, and a Fellow of the A. M. A. In the Northumberland County Medical Society his chief interests were in the Pneumonia and Emergency Child Health Committees.

Dr. Rice was a man of varied interests. He was a member of the Northumberland School Board for 21 years and president of the board for 9 years. In 1936 the modern senior high school was named "The Dr. C. W. Rice High School Building." He was surgeon for the Pennsylvania Railroad, and ran the State Tuberculosis Clinic at Sunbury, also the State Well Baby Clinic at Northumberland. He served during the World War as first lieutenant in the Medical Corps, U. S. Army, and had recently been selected chairman of the Local Draft Board No. 2. He was past commander, American Legion Post No. 44, a life member of Eureka Lodge 404, F. & A. Masons, and the Knights Templar. In 1904 Dr. Rice was married to Charlotte Yocum, who with a daughter and a son survives.

SOLOMON SEILIKOVITCH, Philadelphia; Medico-Chirurgical College of Philadelphia, 1893; aged 75; died at his home after a prolonged illness Nov. 17, 1940. Dr. Seilikovitch was born at Odessa, Russia, the son of Moses and Rebecca Seilikovitch, May 1, 1865. He came to the United States as a young man after receiving his preliminary and premedical education in Russia. Dr. Seilikovitch specialized in pediatrics. He was senior pediatrician at Mt. Sinai Hospital, Philadelphia, from 1900 to 1927, and consulting pediatrician from 1934 to 1937. He served on the board of directors of the hospital. Dr. Seilikovitch was an affiliate member of his county and state medical societies and the A. M. A. He was a member of the Philadelphia Pediatric Society, the Southeast Branch of the Philadelphia County Medical Society, the Hebrew Literature Society, and the Beethoven Orchestra and Chorus (vice-president). He was a contributor to the medical literature. Dr. Seilikovitch was married to Fannie Blum in 1894. His wife, 2 daughters, and a son survive.

LEON CLIFFORD WILLS, Philadelphia; Jefferson Medical College of Philadelphia, 1907; aged 58; died Nov. 11, 1940. Dr. Wills was born in Bloomington, Ill., Nov. 13, 1882, a son of James A. and Sarah (Morris) Wills. He received his education in the Philadelphia public schools and Brown Preparatory School, Philadelphia. His internship was served at the Stetson Hospital, Philadelphia. For a time Dr. Wills was associated with the late P. Brooke Bland, M.D., of Philadelphia. Dr. Wills was an instructor in surgical anatomy at Jefferson Medical College of Philadelphia. He was an ophthalmologist, and on the staff of ophthalmology at the Presbyterian Hospital, Philadelphia. He was a member of his county and state medical societies, the A. M. A., the West Philadelphia Medical Society, the Leidy Microscopical Club, the Philadelphia Microscopical Club, and the Philadelphia Mineralogical Club. He served on the Mexican Border with Company B. In 1917 Dr. Wills was married to Agnes Edna Irey, who with a son, survives.

GEORGE BRINTON WOODS, Curllsville (Clarion County); College of Physicians and Surgeons, Baltimore, 1887; aged 77; died Sept. 29, 1940, of a cerebral hemorrhage. Dr. Woods was born at Leatherwood, Aug. 5, 1863, a son of George and Eliza Woods. He attended the local schools of Porter Township, Clarion County, and Carrier Seminary. He pursued graduate studies in New York in 1901. Dr. Woods was especially interested in surgery. He was a member of his county and state medical societies for 53 years and the A. M. A. In 1887 Dr. Woods was married to Ada M. Armagost, who is deceased. A son survives.

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BOOK REVIEWS

CHEMOTHERAPY AND SERUM THERAPY OF PNEUMONIA. By FREDERICK T. LORD, M.D., clinical professor of medicine, emeritus, Harvard Medical School; member of the Board of Consultation, Massachusetts General Hospital; ELLIOTT S. ROBINSON, M.D., Ph.D., director, Division of Biologic Laboratories, Massachusetts Department of Public Health; and RODERICK HEFFRON, M.D., medical associate, The Commonwealth Fund; formerly field director, Pneumonia Study and Service, Massachusetts Department of Public Health. New York: The Commonwealth Fund, 1940. Price, \$1.00.

This handbook on the diagnosis and treatment of the various forms of pneumonia covers both chemotherapy and serum therapy.

The epoch-making discovery of the drug sulfapyridine for use in the treatment of pneumonia has greatly aided the battle against this disease. The use of the drug alone or in conjunction with antiserum makes possible as never before the effective control of mortality from this disease.

Although sulfapyridine is effective in the treatment of pneumonia caused by pneumococci of any type and possibly certain other organisms, it is capable of serious toxic action, and under certain conditions its use is contraindicated. Thus, at times, serum therapy may be preferable. In other cases the combined use of sulfapyridine and serum gives the best results. This handbook discusses the indications and contraindications for these various forms of treatment, their relative merits, methods of use, precautions to be observed, and the results obtained.

This manual replaces the widely used *Pneumonia and Serum Therapy* by Lord and Heffron. It brings up to date the material on serum therapy, presents full information about the use of sulfapyridine, and gives in concise, useable form a rounded discussion of the specific drug and serum treatment of pneumonia due to various organisms.

DIAGNOSIS AND TREATMENT OF HEAD INJURIES. By SIDNEY W. GROSS, M.D., F.A.C.S., attending neurosurgeon, Beth Israel Hospital; associate neurosurgeon, Morrisania City Hospital; adjunct neurosurgeon, Mt. Sinai Hospital; instructor, New York University, New York; and WILLIAM EHRLICH, M.D., associate attending neurosurgeon, Newark Beth Israel Hospital; neurosurgeon, Barnett Memorial Hospital, Paterson, N. J. Introduction by PERCIVAL BAILEY, M.D., Ph.D., professor of neurology and neurosurgery, University of Illinois, Chicago. With 94 illustrations. New York and London: Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, 1940. Price, \$5.00.

This monograph on the diagnosis and treatment of head injuries is written concisely and to the point. After a short discussion on the management of acute head injuries as advocated by widely different schools of thought, the authors proceed to a description of their own methods. No doubt is left in the mind of the reader of what treatment they regard as logical. Sufficient description of intracranial physiology and anatomy of the part come early in the text.

The chapters on extradural hemorrhage, traumatic subdural hematoma, and complications and sequela alone make the book well worth while to the active practitioner. The bibliography is quite complete and will be of especial advantage to the postgraduate student. The

sections dealing with surgical technic will interest mainly the neurosurgeon. On the whole, however, the work will be most useful to the general practitioner and surgical residents. The style is pleasing, the type easily legible, and the paper is of good quality.

MINOR SURGERY. By FREDERICK CHRISTOPHER, S.B., M.D., F.A.C.S., associate professor of surgery at the Northwestern University Medical School, Chicago; chief surgeon at the Evanston (Ill.) Hospital. With a foreword by ALLEN B. KANAVAL, M.D., F.A.C.S. Fourth edition, reset. 990 pages with 639 illustrations. Philadelphia and London: W. B. Saunders Company, 1940. Cloth, \$10.00.

This work has been brought up to date and is as complete and correct as it is possible to be. The difficulty of deciding which is major and which is minor surgery has been worked out very satisfactorily.

Dr. Christopher's wide experience makes his word authoritative. He gives credit to others where it is due, and the references can be found at the end of each chapter, which arrangement is exceedingly valuable.

Obsolete methods are mentioned but advised against, and the reasons why they have been superseded by other methods are explained. The technic of the procedures is well illustrated. The indication for a special method is stated definitely and clearly.

In Chapter 24, which deals with the duties of the intern, such items as testing and correcting the increased bleeding time and the use of the Wangenstein suction apparatus are well brought out. Even such an insignificant act as placing a pillow under the back of the patient during and after operation is noted. In this chapter there are more valuable suggestions for the intern than I have seen elsewhere.

The section on thrombosis and embolism and their prevention has been brought up to date and contains information that even an established surgeon may not be familiar with.

I have read the book with a great deal of interest and heartily endorse it.

ELECTROCARDIOGRAPHY. By CHAUNCEY C. MAHER, B.S., M.D., assistant professor of medicine, Northwestern University and the Montgomery Ward Medical Clinics, etc., and PAUL H. WOSIKA, M.D., M.S., instructor in medicine, Northwestern University and the Montgomery Ward Medical Clinics, etc. Third edition, 334 pages, 100 electrocardiograms, 5 radiograms, 42 figures. A William Wood book. Baltimore: The Williams & Wilkins Company, 1940. Price, \$4.00.

The authors state that the purpose of this book is to acquaint physicians and students not fully trained in cardiology with an introduction to the electrocardiographic method. The text is commendably brief, the electrocardiograms cover the clinical field well, and the other illustrations are good. Brief case histories including the clinical diagnosis are furnished in association with the electrocardiograms. The abnormal cardiac mechanisms are illustrated by excellent schematic drawings.

Since this is the third edition to appear in 6 years, the book appears to have attained considerable popularity. In the opinion of the reviewer, the present edition can be recommended for those who know nothing of electrocardiography but wish to learn something about the subject.

CLINICAL ROENTGENOLOGY OF THE ALIMENTARY TRACT. By JACOB BUCKSTEIN, M.D., visiting roentgenologist (Alimentary Tract Division), Bellevue Hospital, New York City; consultant in gastro-enterology, Central Islip Hospital. Philadelphia and London: W. B. Saunders Company, 1940. Cloth, \$10.00.

This volume is in every sense an epitome of the roentgenologic study of the alimentary tract correlated so closely with clinical aspects that it well merits the title "Clinical Roentgenology." The reviewer looks upon it as one of the best textbooks published on the subject.

While sufficiently comprehensive to be a textbook, it is not so elementary or condensed as to lose value as a reference book for radiologist and clinician alike.

The volume consists of 652 pages illustrated with 525 excellent original illustrations. The author has included just enough historical notes to be interesting. The bibliographic references are in themselves valuable from a reference standpoint.

The subject is suitably divided into anatomic and pathologic divisions. Numerous case histories co-ordinate the roentgenologic and clinical considerations.

Dr. Buckstein is to be congratulated on an excellent accomplishment.

THE COMPLETE PEDIATRICIAN. Practical, Diagnostic, Therapeutic, and Preventive Pediatrics. By W. C. DAVISON, professor of pediatrics, Duke University School of Medicine; formerly acting pediatrician in charge, The Johns Hopkins Hospital, Baltimore. Third edition. Durham, N. C.: Duke University Press, 1940. Price, \$3.75 cash; \$4.00 on credit.

This third edition has been revised in certain particulars with the idea of making it more valuable from a practical point of view. Additional medical material,

as applied to pediatrics and confirmed in the past year, has been added to bring the book up to date.

This 250-page book contains an abundance of facts which are so often forgotten. It is possible to review a disease entity in a brief period of time, hence the text should be invaluable to the general practitioner.

It is a treat to find a book that has eliminated much verbiage in order to present the meat of the subject. It can be heartily recommended to the pediatrician and general practitioner alike.

ENDOCRINE THERAPY IN GENERAL PRACTICE. By ELMER L. SEVRINGHAUS, M.D., F.A.C.P., professor of medicine, University of Wisconsin, Madison, Wis.; editor, Department of Endocrinology, The Year Book of Neurology, Psychiatry, and Endocrinology. Chicago: The Year Book Publishers, Inc., 1940. Price, \$2.75.

The third edition has been reset to accommodate additions and changes in each chapter necessitated by the rapid advances in endocrinology. Therapeutic details have been made more definite and new commercial preparations added. As in the former editions, the authors give the name of commercial preparations—often with their evaluations—and explain explicitly their use. A new chapter on the endocrine problems of children and adolescents has been added.

We prophesy that this work will continue to be a favorite with the general practitioner. If the outline is followed, only proven preparations will be prescribed and the patient will profit, for it excludes the use of unstandardized products.

A TEXTBOOK OF PATHOLOGY. By W. G. MACCALLUM, professor of pathology and bacteriology, The Johns Hopkins University, Baltimore. Seventh edition, thoroughly revised. 1302 pages with 697 illustrations. Philadelphia and London: W. B. Saunders Company, 1940. Price, \$10.00.

For a quarter of a century this beautiful book has maintained its place in the front ranks of an ever-growing company of worthy competitors. That in itself should be sufficient evidence of its exceptional merits, and might suggest the uselessness of dwelling upon them for the seventh time. It would seem as though everything worth saying must already have been said, and perhaps it has. But lest there be a few who do not know about it, let it be repeated that this is one of the rare textbooks written to be *read*, and not merely to be referred to; that it can be read easily, and with both enjoyment and enlightenment; and that its 697 beautiful pictures, nearly all of which are original, so fully illustrate the text as to make the perusal like a combination lecture room and laboratory course.

The revision of the text has been brought about largely by the replacement of old matter by new, not by interspersing it amid the old. Special attention has been given to the new work of the chemists and experimentalists. The field covered is so vast that purely academic, philosophic, controversial, and historical matters have either been omitted or only touched upon.

The author seems to know his own mind, and at the conclusion of a chapter leaves the reader with some substantial ground to stand upon, not "in the air," so to speak.

He is to be congratulated upon a fine piece of work, completed at a time when the interest of novelty had long been worn off through the labor of having prepared the previous 6 editions, and when his increasing years must have made sustained effort burdensome.

The publisher is also to be commended for maintaining the exceptionally high standard of book production for which he is renowned.

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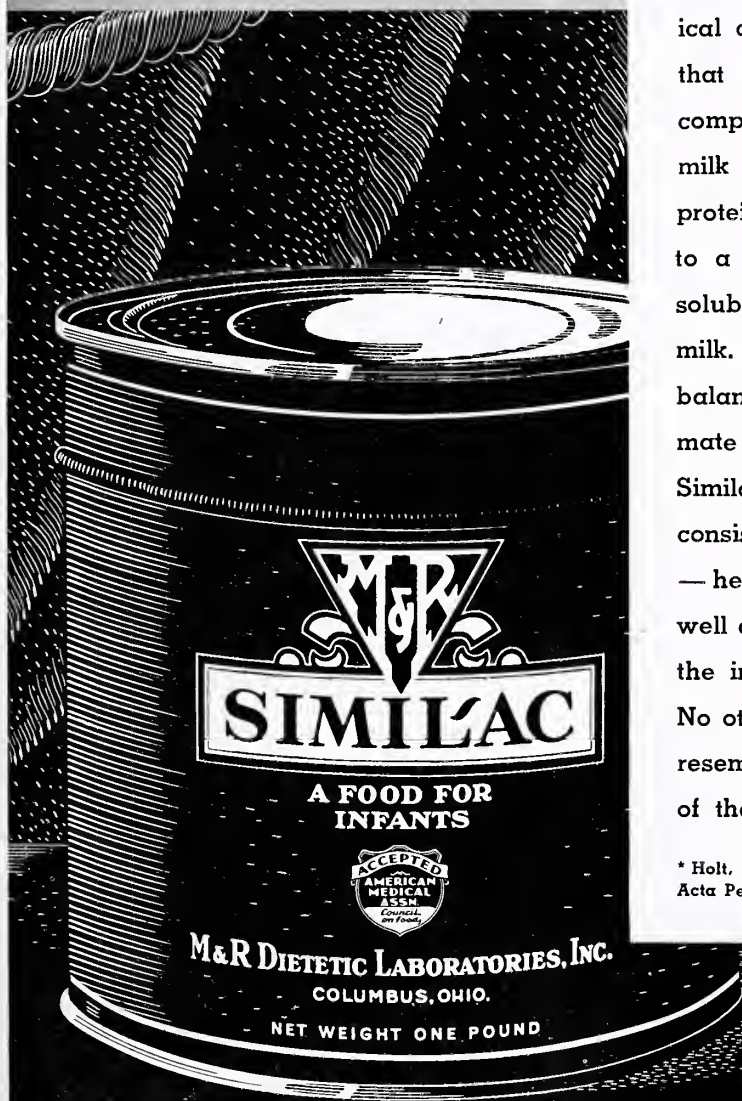
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Acta Paediatrica Vol. 16, 1933

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NO REASON TO INDUCE SKIN CANCER

There is no justification for recommending the deliberate production of curable cancer of the skin as a means of protection against development of cancer elsewhere, Shields Warren, M.D., and Olive Gates, M.D., Boston, declare in *The Journal of the American Medical Association* for Nov. 16.

Cancer of the skin is less serious than cancer of other organs. Thus a previous paper which reported a lesser incidence of internal cancer in persons with cancer of the skin than in the general population suggested that this type of the disease might exert a beneficial effect in preventing the development of more serious forms.

In their studies the 2 Boston physicians found that cancer of other organs was more than twice as frequent among 1149 persons with cancer of the skin as it was among the general Massachusetts population.

AMERICAN MEDICAL ASSOCIATION WILL PUBLISH A NEW PERIODICAL

"Beginning in January, the American Medical Association will publish a new periodical, *'War Medicine,'* as a part of its contribution to the preparedness program," *The Journal* of the association announces in its Dec. 14 issue.

"The editorial board of the publication will be the Committee on Information of the Division of Medical Sciences of the National Research Council. This committee includes Dr. Morris Fishbein, editor of *The Journal*, as chairman, and the following associate editors: Mr. J. R. Bloomfield and Drs. John F. Fulton, Richard M. Hewitt, Ira V. Hiscock, Sanford V. Larky, and Robert N. Nye. In order to have direct cooperation with the governmental services, the following representatives of the Army and Navy Medical Corps and the United States Public Health Service have been chosen to co-operate with this editorial board: Col. C. C. Hillman, Com. Charles S. Stephenson, and Dr. R. R. Spencer.

"The Division of Medical Sciences of the National Research Council has developed a number of scientific committees which are actively at work preparing reports of various phases of medical service under military conditions. These official documents will be available to the new periodical for prompt publication. Already reports on chemotherapy, the standardization of the treatment of pneumonia, numerous problems concerned with medicine in aviation, peripheral nerve injuries, wound treatment, gas gangrene, and similar subjects are being made available.

"The American Medical Association, through its Committee on Medical Preparedness, is concerning itself with all the questions of personnel for preparedness and for military service. The official reports of this committee will also appear in the new periodical as well as special considerations that are given to economic and social problems of the medical profession in relationship to the emergency. Of especial importance also are the reports of official committees of the American Medical Association, such as the Council on Medical Education and Hospitals, the Council on Industrial Health, and similar groups which will also be concerned with these problems.

"Finally, much material is being developed by the Co-ordinating Committee on Medicine and Health of

the Council on National Defense and by many other governmental agencies which are considering the national nutrition, the provision of hospital services, and similar questions closely related to preparedness and defense.

"The new publication will appear as a bimonthly. The Board of Trustees of the American Medical Association, which has authorized its publication, has established a price of \$5 annually for the subscription. The periodical should be useful not only to the government services, which have indicated their wish to subscribe to this periodical for their official departments, but also to libraries and to individual physicians."

FULL AND PART-TIME TEACHING

Some aspects of the problems involved in the question of full and part-time teaching in medical education are discussed by *The Journal of the American Medical Association* for Nov. 30.

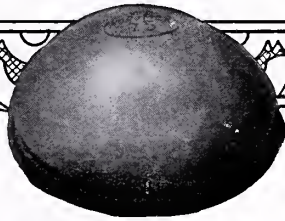
"In 1900 there were some 155 medical colleges in the United States," *The Journal* says, "Today the number of 4-year medical schools is 66. In those days medical schools included some for which preparation was merely high school graduation, a few which required some university education. Today the majority of medical students have had at least 3 years of college education before entering on the study of medicine. Thus has come about a tremendous advancement of standards. No doubt the first great impetus toward that advancement came when the American Medical Association established the Council on Medical Education and Hospitals and began publishing regularly the statistics on medical schools and on licensing boards.

"However, the situation was dramatized when the first report by Abraham Flexner was published under the auspices of the Carnegie Foundation for the Advancement of Teaching. This publication served to call public attention to the necessity for improvement and thereby gave to the American Medical Association the type of support that it needed in its drive for educational advancement. The work here mentioned is probably the best-known contribution of Abraham Flexner. However, his autobiography, recently published, serves to remind us of many other valuable contributions to the civilization of our times.

"If there is any one aspect of Mr. Flexner's recommendations that has agitated American medicine in recent years, it is the question of full-time versus part-time clinical teaching. Since the establishment of the full-time plan it has been a constant subject of debate among medical educators. In the United States today our medical schools vary from some which have a majority of full-time teachers in the clinical branches to one of our leading medical schools which still has none. No doubt an impartial evaluation of our educational system would recognize certain aspects of full-time teaching which are desirable but would also recognize some of the defects which the introduction of this system has created.

"One of the extraordinary phenomena of the entrance of the full-time teacher into medical education has been a sort of group attitude in questions concerning medical economics. Here is perhaps a problem to which the sociologist or psychologist might well give special attention. In questions concerning the costs and distribution of medical service, in problems of political and govern-

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Every precaution has been taken to insure accuracy in these advertisements and in this index, but there is no guarantee against errors or omissions.

mental character that have agitated the medical profession in recent years, there has failed to be a community of interest. Part or full-time teachers in the medical schools have not in general supported the elected representatives of the medical profession. True, there have been on both sides individuals who have departed from the herd. In general, the alinements have been as here suggested.

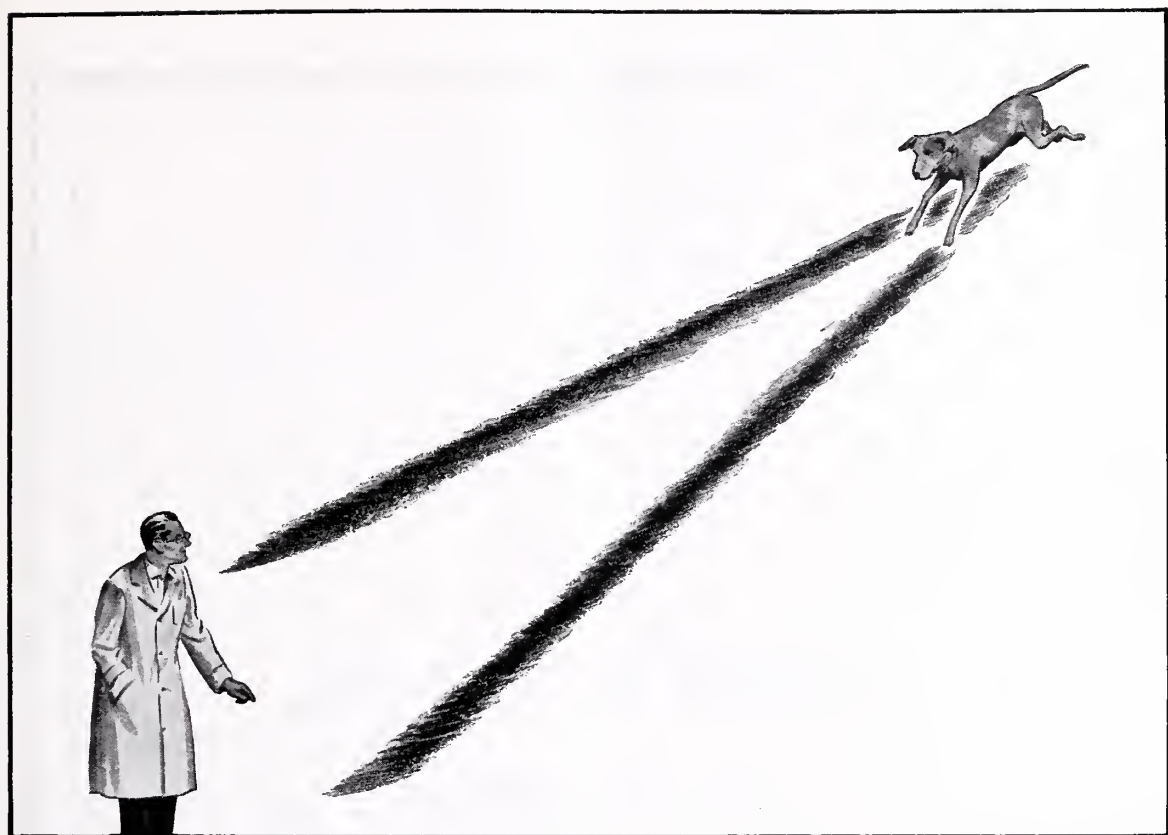
"As the leaders of one group have sought for federal funds to aid the medical schools, practitioners of medicine have asserted that they were concerned primarily with their own rather than with the public good. As the practitioners of medicine have sought to maintain independence from governmental control, the teaching groups have charged that they were protecting their professional interest in the patient's pocketbook and have not been concerned with the public good. Obviously the economic situation of the schools, and of the private practitioners as well, in these times of stress has brought about extraordinary conditions in which the true issues may occasionally have been lost to sight. The problem of educating physicians for the care of the sick and the increasing costs of medical education, associated with university control, may have some responsibility for this situation.

"Incidentally, the answer to the problem of medical care cannot lie in state provision of medical care to be given under the auspices of medical educational institutions. The mere fact that there exist so many states in which there are institutions for medical education, that there are such wide areas in which educational institutions are not available, the fact that educational institutions tend to multiply in large centers where a mass of so-called clinical material is available for teaching purposes, would indicate that the chief purpose of the educational institution is to educate and that the chief purpose of the physician is the care of the sick.

"Unfortunately the assumption of these attitudes seems to result in a loss of interest by the practicing medical profession in the whole problem of medical education. The physicians of large cities have become interested because there is obviously a social, professional, and educational advantage in being associated with a teaching institution. Physicians far removed, however, from teaching centers express disinterest in many instances simply because they have felt that the teaching institutions were much more concerned with their own prestige and advancement than with the primary problems of medical practice. The extension of the functions of medical education to the field of graduate education of the practicing physician would unquestionably bring these physicians again within the fold of medical education."

MEDICAL EDUCATION CONGRESS DATE SET

The Thirty-seventh Annual Congress on Medical Education and Licensure, conducted under the auspices of the Council on Medical Education and Hospitals of the American Medical Association, will be held at the Palmer House, Chicago, Feb. 17 and 18, *The Journal* of the association announces in its Nov. 9 issue. During the congress special consideration will be given to the relationship of the medical profession to national defense.



The Conquest of Pellagra

In the annals of medical science few discoveries have been more notable than that of the dramatic role nicotinic acid plays in the treatment of pellagra.

Although earlier research workers had devoted much effort to the problem, it was Dr. Joseph Goldberger and Dr. W. H. Sebrell who, in 1930, supplied the necessary clue by their discovery of the beneficial effect of liver therapy in this deficiency disease.

Thereafter progress was rapid on several fronts, with major credit for the final victory due largely to Dr. C. A. Elvehjem for his identification of nicotinic acid or nicotinic acid amide with the black-tongue preventive factor. It was his

patient, tireless work with great batches of liver extract that narrowed the search to the few vital crystals which proved to be nicotinic acid. He and his co-workers at the University of Wisconsin—Madden, Strong, and Woolley—fed a few of these crystals to a mongrel dog suffering from blacktongue. In less than a day the symptoms had begun to disappear. Thereafter it remained for Dr. T. D. Spies in Birmingham, Alabama, and others, to apply nicotinic acid to their clinical work on humans, with what result the world knows.

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PENNSYLVANIA

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FEBRUARY, 1941

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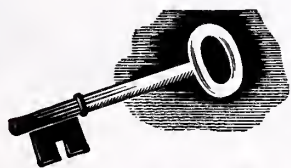
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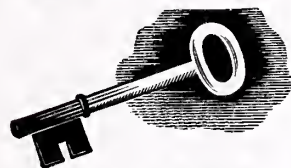
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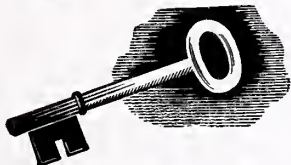
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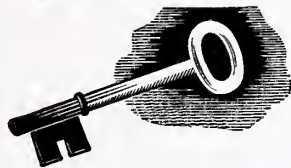
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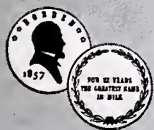
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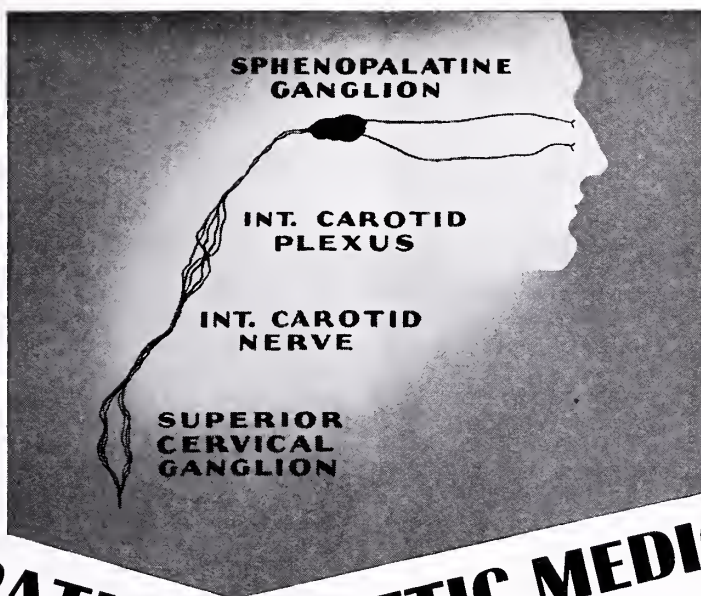
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LETTERS

Kind Words

GENTLEMEN:

I am enclosing the proofs of my paper presented at our annual meeting in Philadelphia as it has been edited. I should like to say that the editing is certainly excellent in every way. Such accuracy is greatly appreciated by the writer. My best wishes for the continued success of the JOURNAL.

MURRAY B. FERDERBER, M.D.,
Department of Industrial Hygiene,
University of Pittsburgh School of
Medicine,
Pittsburgh, Pa.

Joint Range Chart

GENTLEMEN:

We are interested in obtaining for our Physiotherapy Department a chart showing the extent of normal motion in joints. If you have such a chart, we would appreciate either your sending it to us or giving us information as to how it can be obtained.

EDWARD McLAUGHLIN, M.D.,
The Germantown Dispensary and Hospital,
Philadelphia, Pa.

A copy of the 15 x 17 inch chart showing the range of motion of the joints of the extremities as prepared by the Committee on Physical Therapy of The Medical Society of the State of Pennsylvania has been sent to the Germantown Dispensary and Hospital.

The committee believes that most dispensaries, clinics, and practitioners might use one of these charts to the great advantage of patients. A copy may be had by sending 25 cents in stamps to the Librarian, 230 State Street, Harrisburg, Pa.—THE EDITORS.

Civil Service Public Health Positions

GENTLEMEN:

The United States Civil Service Commission has announced examinations to fill the positions of psychiatric nurse, guard-attendant, and medical technical assistant in the Division of Mental Hygiene of the Public Health Service. Appointments to the positions of medical guard-attendant and medical technical assistant will also be made in the Department of Justice.

The duties of the psychiatric nurse position, which pays \$3200 a year, include the study of nursing practices in public mental hospitals with a view toward recommendations for improvement; they also involve giving technical advice to directors of nursing relative to psychiatric procedure and conducting public discussions on psychiatric nursing. Applicants must be registered graduate nurses with certain appropriate experience

in a hospital for mental patients. They will not be required to take a written test.

The medical guard-attendant positions involve the care, treatment, and custody of federal prisoners. The salary is \$1620 a year. Applicants must either be registered graduate nurses, have had experience as attendants at federal penal or correctional institutions, or have had active service in the Army or Navy Medical Corps.

For medical technical assistant positions, paying \$2000 a year, applicants must meet the requirements for guard-attendant, and in addition must have had one year of training or experience in either clinical laboratory technic, pharmacy, or roentgen-ray laboratory technic.

Applications must be filed at the commission's Washington office not later than Feb. 17 and Feb. 20, 1941, the extra time being allowed for those sent from Colorado and states westward. Salaries are subject to a 3½ per cent retirement deduction.

Further information and application forms may be obtained from the secretary of the Board of U. S. Civil Service Examiners at any first-class or second-class post office, or from the U. S. Civil Service Commission, Washington, D. C.

U. S. Civil Service Commission,
Washington, D. C.

Reprints for Chile

GENTLEMEN:

In my official capacity as Consul of Chile in Philadelphia, I have been requested by Dr. Ruben Fernandez, a Chilean surgeon and visiting government official to your last medical convention here, to obtain reprints of some papers read before the annual session of The Medical Society of the State of Pennsylvania, held in Philadelphia from Sept. 30 to Oct. 3, 1940.

Dr. Fernandez would like to receive reprints of the following papers:

The Present Status of Cyclopropane. By Ivan B. Taylor, Philadelphia.

Continuous Spinal Anesthesia. By William T. Lemmon and George W. Paschal, Philadelphia.

Compression Fracture of the Spine. By Tom Outland, Elizabethtown.

Perforation in Carcinoma of the Colon. By William L. Estes, Jr., Bethlehem.

The Management of Hyperthyroidism Complicated by Other Conditions. By Richard B. Cattell, Boston, Mass.

Disruption of Abdominal Wounds. By Hubley R. Owen and Bernardine M. Mahowald, Philadelphia.

Conservative Therapy in the Treatment of Diabetic Gangrene. By William H. Erb, Philadelphia.

Problems Associated with Surgery of the Biliary Tract. By Howard K. Gray, Rochester, Minn.

Acute Cholecystitis: Summary of the Results in the Past 10 Years with Comparison and Discussion of Results by Immediate, Early, and Late Operation. By John L. Atlee, Jr., Lancaster.

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► THE MILITARY MEDICAL MANUAL is produced to serve the needs of officers of the several corps of the Medical Department. It is intended especially for those who serve with tactical units in the field or those charged with training of Medical Department enlisted men at Replacement Centers.

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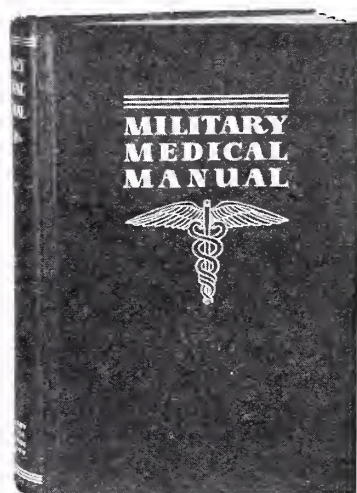


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Pain in the Right Lower Abdomen in Women. By Charles I. Lintgen, Philadelphia.

In referring this request to you, I trust I am following the proper procedure. If it is possible to secure these reprints, one copy of each, through your office, will you be kind enough to send them to this consulate office to be forwarded to Chile?

Thank you for your valuable co-operation in this matter.

MANUEL E. MORENO, D.D.S.,
Consul of Chile,
1626 Spruce Street,
Philadelphia, Pa.

We have made arrangements whereby Dr. Fernandez will receive reprints of the papers which he requested through the Consul of Chile. It is very gratifying to learn that Dr. Fernandez was interested in so many papers.—THE EDITORS.

Musicians Wanted

GENTLEMEN:

We are attempting to form a Physicians' and Dentists' Symphony Orchestra in Pittsburgh. We are recruiting members from Pittsburgh and its vicinity.

Several cities in the United States have successful physicians' symphony orchestras and we believe that there is sufficient talent in and around Pittsburgh to form such a group.

If physicians who are interested in this movement will get in touch with me, I will be able to give them more of the details concerning the formation of this symphony orchestra.

MYER W. RUBENSTEIN, M.D.,
312-16 Medical Building,
Pittsburgh, Pa.

Cable News

GENTLEMEN:

I should like to submit to you the following cable message received from Australia:

"Perth, West Australia, December 12.—The West Australian Parliament has passed a bill permitting alien refugee physicians to practice in country districts. The Executive Council is empowered to proclaim an area to be inadequately supplied with medical services as one for which regional registration may be granted adequately qualified alien physicians.

"A hospital may also be declared an area for regional registration, and the registration confined to the hospital. The alien has the right of appeal against the Medical Board's refusal to register, and after holding registration for 7 years for a regional area he may be registered throughout the state.

"Sixteen country centers in West Australia are without physicians owing to enlistments in the army. New South Wales, Queensland, and South Australia permit registration of alien physicians who have completed a

shortened course at an Australian University, but Victoria does not."

This cable is forwarded to you in the belief that it may be of interest to you for publication. I should be glad to send you from time to time similar items of interest to the medical profession. No obligation on your part is, of course, implied.

DAVID W. BAILEY,
American Representative,
Australian Associated Press.

Progress on the New Pharmacopoeia

GENTLEMEN:

Two meetings of the members of the Committee of Revision and the routine activities conducted through general committee circulars and subcommittee bulletins have materially advanced the work of the Twelfth Revision during the past 6 months.

During the meeting of the Revision Committee last October, many of the suggestions offered during the convention in May were discussed. Committee action was taken and each of the 15 subcommittees held conferences to consider the details of monographs in their hands for revision. The recommendations on Scope are of special interest to physicians and pharmacists and these are presented for general information and criticism.

All who have suggestions which in their opinion might increase the value of the U.S.P. to the medical or pharmaceutical professions or to the public are urged to send such comments to the general chairman of the Committee of Revision.

E. FULLERTON COOK, PH.M., *Chairman*,
43rd Street and Woodland Avenue,
Philadelphia, Pa.

Essay Contest

GENTLEMEN:

The Mississippi Valley Medical Society offers annually a cash prize of \$100, a gold medal, and a certificate of award for the best unpublished essay on any subject of general medical interest (including medical economics) and practical value to the general practitioner of medicine. Certificates of merit may also be granted to the physicians whose essays are rated second and third best.

Contestants must be members of the American Medical Association who are residents of the United States. The winner will be invited to present his contribution before the next annual meeting of the Mississippi Valley Medical Society at Cedar Rapids, Iowa, Oct. 1, 2, 3, 1941, the society reserving the exclusive right to publish the essay first in its official publication—the Mississippi Valley Medical Journal (incorporating the Radiologic Review.)

All contributions shall not exceed 5000 words, be typewritten in English in manuscript form, submitted in 5 copies, and must be received not later than May 1, 1941. The winning essay of the 1940 contest appears in the January, 1941, issue of the Mississippi Valley Medical Journal. Further details may be secured by writing to me.

HAROLD SWANBERG, M.D., *Secretary*,
Mississippi Valley Medical Society,
209-224 W. C. U. Building,
Quincy, Ill.

THE OLD GRAY MARE

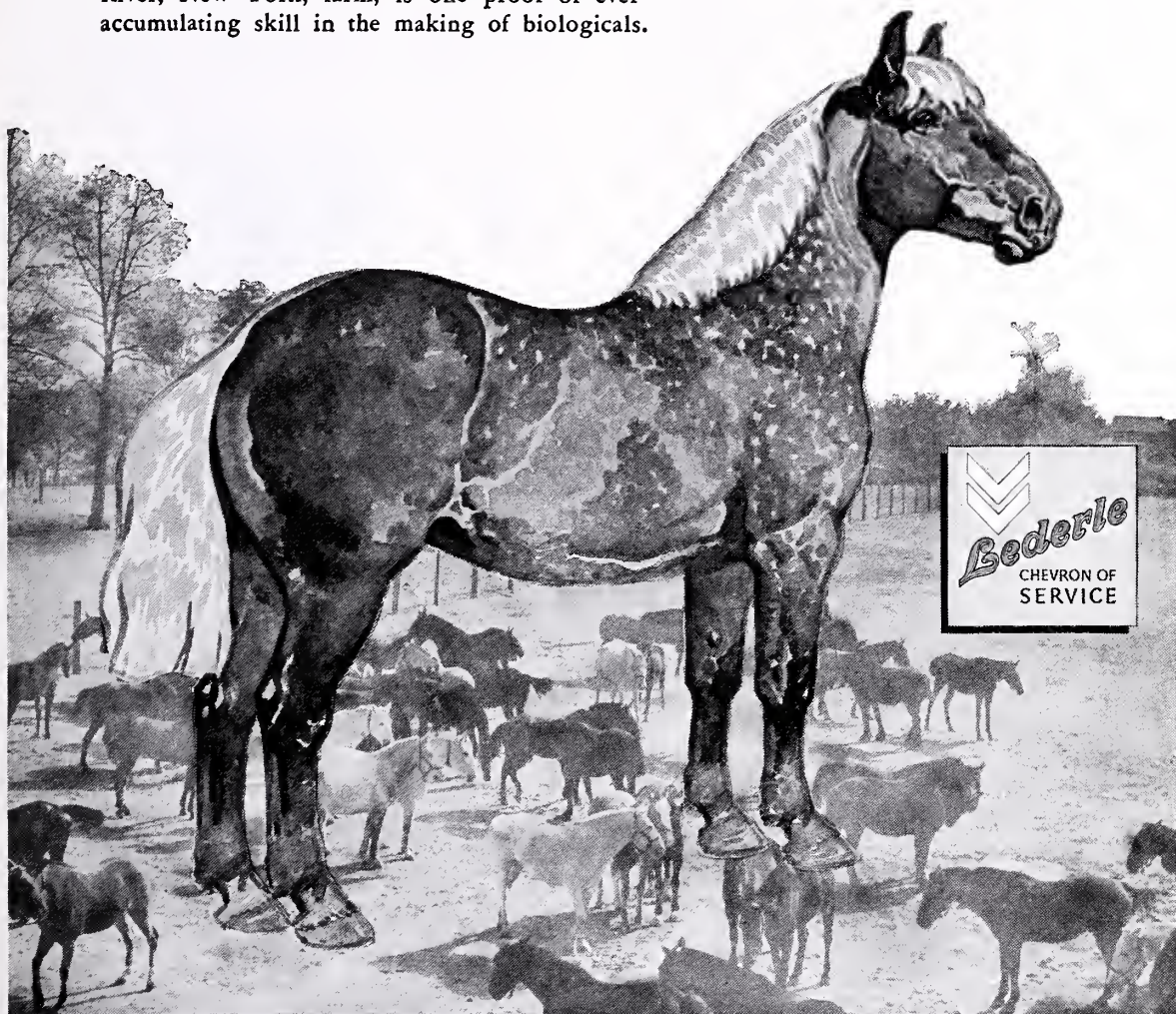
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A Study of Consecutive Cases of Hypertension and Albuminuria in Pregnancy

FREDERICK C. IRVING, M.D.

Boston, Mass.



IN THE past 30 years the general adoption of prenatal care in good obstetric practice, both hospital and private, has afforded ample opportunity for the early detection and prompt treatment of those conditions in pregnancy

which are characterized by hypertension and albuminuria. How frequently these conditions occur is shown by data from the Boston Lying-in Hospital, which reveal that from 1935 to 1938 inclusive, among 13,978 deliveries in the house and outpatient departments, there were 1477 admissions for these causes—a ratio of about 1 in 9. No complication of pregnancy occurs more often, yet I am astonished to find that neither in the American nor foreign literature is there any adequate statistical study regarding the success or failure of prenatal care in controlling these conditions. Speculation regarding the cause of eclampsia has been fertile, many theories concerning its pathogenesis have been advanced, reams have been written about what chemical changes in the body occur or do not occur, but no one has been curious about how often convulsions have developed in those cases that were supposed to have been properly treated, and only a few writers have been interested in how many mothers and babies have died.

This paper is presented in an attempt to answer these questions. It is a review of 1182 consecutive cases of hypertension and albuminuria, all registered in our pregnancy clinics, and all admitted to the hospital from 1935 to 1938 inclusive for treatment and study. Two hundred and ninety-five similar emergency cases, referred by outside physicians and other hospitals during the same period, are, for the present, eliminated from consideration. The responsibility for the 1182 registered cases, therefore, rested from the beginning entirely with the hos-

pital staff. Since the policy of treatment during these 4 years has been uniform, we have had ample opportunity to judge whether it had been successful or not. Before our policy is described, however, and before its results are given, we may well consider certain statistical data which a study of this scope has revealed.

Statistical Data

Classification.—In Table I are shown the groups into which these cases of hypertension and albuminuria were divided, according to the diagnostic criteria used in our hospital.¹ In mild pre-eclampsics the rise of systolic blood pressure, although on occasions considerable, is either transitory or sustained at not much over 150 mm. Hg., the albuminuria does not exceed a slight trace, and marked symptoms are lacking. Severe pre-eclampsics, many of whom begin as examples of the mild variety, show marked and increasing hypertension and albuminuria. One or more of such symptoms or signs as headache, visual disturbances, lethargy, irritability, edema, or oliguria are usually present. At this point it is pertinent to state that every pre-eclampsia, severe or even mild, is a potential eclampsia, and he who is not worried by a mild pre-eclampsia because of its apparent mildness has a dangerous attitude of mind. Patients with hypertensive disease are those who show a permanently elevated blood pressure with little or no albuminuria; chronic nephritics are those who show evidences, both from their histories and from special tests, of definite and lasting kidney disease. Although hypertensives and nephritics are less likely to develop convulsions than are pre-eclampsics, this possibility is always to be feared.

TABLE I

1182 CASES WITH HYPERTENSION AND ALBUMINURIA

	Cases	Per Cent
Pre-eclampsia, mild	889	75.0
Pre-eclampsia, severe	212	18.1
Hypertensive disease	68	5.8
Chronic nephritis	13	1.1

¹Read before the Section on Obstetrics and Gynecology of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 2, 1940.

From the Department of Obstetrics, Harvard Medical School, and the Boston Lying-in Hospital, Boston, Mass.

Signs and Symptoms.—Edema was the most frequent sign and headache the most frequent symptom. About a quarter of all patients had visual disturbances or vomiting.

TABLE II
SIGNS AND SYMPTOMS

	Cases	Per Cent
Edema	790	66.8
Headache	477	40.2
Visual disturbances	266	26.1
Vomiting	265	26.0

Parity.—There were almost an equal number of primiparae and multiparae. Thirty-four and seven tenths per cent of the multiparae, or about one-third, had suffered from a similar condition in a previous pregnancy.

TABLE III
PARITY

	Cases	Per Cent
Primiparae	559	47.2*
Multiparae	623	52.8

Multiple Pregnancy.—There were 32 pairs of twins, a frequency of 1:37, as contrasted with the usual frequency of 1:87.

Complications.—Premature separation of the placenta, although bearing a recognized association with hypertension and albuminuria, was relatively infrequent, since it occurred in only 21 cases, or in 1.8 per cent. F. L. Adair² noted in his cases a frequency of 4.9 per cent. Placenta praevia, which has no etiologic connection with hypertension and albuminuria, occurred only 5 times, or in 0.42 per cent.

Laboratory Studies and Special Investigations.—In 872 cases the so-called routine blood chemistry, which includes the determination of the nonprotein nitrogen, the urea nitrogen, and the uric acid, was investigated one or more times; in 455 cases the eyegrounds were examined by an ophthalmologist; in 175 cases the total and divided plasma proteins were ascertained; and in 128 instances the urea clearance test was performed. The general practitioner often wonders how much practical benefit either his patients or he derives from so much laboratory work. For years many obstetricians have worshiped at the shrine of chemistry; liters of blood and gallons of urine are daily poured as libations before its altar, but alas, the oracle, like its prototype at Delphi, either remains mute or returns too often only an equivocal answer.

In brief, the physician who seeks a test that will give the greatest number of abnormal results will have the plasma proteins determined

* The usual ratio of primiparae to multiparae in the hospital is 40:60.



PER CENT RELATIVE FREQUENCY OF
ABNORMAL FINDINGS IN LABORATORY
TESTS AND SPECIAL INVESTIGATIONS.

Chart 1.

(Chart 1). Even in normal pregnancy they are below the normal standard, and in somewhat over one-half of the pregnant women with hypertension and albuminuria they are reduced

even more. On the other hand, the nonprotein nitrogenous constituents of the blood show no significant retention unless the patient has nephritis, eclampsia, or a very advanced stage of pre-eclampsia. Since 86.4 per cent of our patients in whom this so-called routine blood chemistry was investigated showed nothing abnormal in their tests, we must admit that we have wasted much time in our laboratory, and that we should reserve these investigations for patients whose condition is serious enough to warrant them, or when they may aid in the differential diagnosis between pre-eclampsia, nephritis, and hypertensive disease.

Significant changes in urea clearance are suggestive of kidney impairment, but the test is not uniformly reliable and should always be repeated if it shows a clearance below the normal limits. Examination of the eyegrounds is of considerable value in cases of hypertensive disease and nephritis. Slight degrees of narrowing in the retinal arterioles is not uncommon in mild degrees of pre-eclampsia; it is a part of the general arteriolar spasm that characterizes the disease, and which disappears with the relief of the condition. However, the practitioner who takes an adequate history, who examines the urine often and carefully for albumin, blood, and casts, and who measures the blood pressure frequently, requires no chemical laboratory to make the diagnosis of albuminuria and hypertension, nor does he need its aid to tell him whether his patients are growing sicker or improving.

Treatment

General Policy and Diet.—All patients showing more than the slightest possible trace of albumin, a systolic blood pressure of 150 or over, or a diastolic pressure above 100, were admitted to the hospital and put to bed. The fluid intake and output for each 24 hours was measured and each patient was given daily less fluid than she had excreted the day before. For the first 24 hours the diet consisted of 1200 c.c. of milk, or 800 calories, which was reduced if necessary for the next day or two to keep the fluid intake below the output. Following the initial milk diet, a change was then made (for the first 3 years covered by this report) to a low salt, low protein diet, which contained about 0.7 Gm. of sodium chloride, 28.0 Gm. of protein, and amounted to about 1375 calories.

Since considerable albumin is lost in the urine and since the frequently lowered plasma proteins indicate a diminished osmotic pressure in the blood stream, tending toward the development of edema, doubts arose concerning the

logic in restricting proteins. We now believe that we may safely give our patients a diet in which the protein is increased, provided that in so doing we do not unduly augment the sodium chloride content. The kidney lesion in eclampsia is primarily of a vascular nature, being an arteriolar spasm of the afferent vessels of the glomeruli.³ It is not inflammatory, and, except in nephritis, it is not degenerative; hence, in pre-eclampsia there can be no reason for the restriction of proteins. The diet used during 1938, the last year of this study, has therefore been changed to include about 145 Gm. protein, 220 Gm. carbohydrate, 100 Gm. fat, and sodium chloride not to exceed 1.6 Gm. The caloric value is about 2200 calories. This régime is well tolerated, but sufficient time has not yet passed to indicate how its results compare with those under the diet that we had used before.

Catharsis.—Magnesium sulfate was given by mouth in half-ounce doses to the point of free, watery catharsis. Once established, frequent daily evacuations were maintained by a reduced dosage. The results obtained thus, aided by the restricted fluid intake, were striking, since many patients showed a loss of weight of from 5 to 10 pounds in a few days.

Termination of Pregnancy.—The frequent effect of this régime has been a prompt fall in blood pressure. In few cases, however, has the albuminuria completely disappeared until after delivery. Some patients have shown marked improvement and have been allowed to go home, remaining under the constant supervision of the outpatient staff, to be readmitted should there be recrudescences of the condition. Others have been kept in the hospital until pregnancy ended spontaneously or labor was induced. If the blood pressure rose, if the albuminuria increased, or if alarming symptoms such as severe headaches, visual disturbances, vomiting, or epigastric pain supervened, pregnancy was terminated artificially. In 429 cases, or in 36.2 per cent, gestation was deliberately interrupted for these reasons. It is to this feature of our policy, rather than to any dietary or medical measures, that we ascribe what success we have had in the prevention of eclampsia and in the preservation of fetal life.

Table IV indicates the duration of gestation when pregnancy was terminated, either spontaneously or artificially, and it also shows for each 4 weeks' period the gross fetal mortality, that is, the death rate determined by the sum of the nonviable fetuses, stillbirths, and neonatal deaths. Ninety per cent of the births occurred in the last 8 weeks of pregnancy, and the fetal

TABLE IV
DURATION OF PREGNANCY AT DELIVERY

Weeks Pregnant	Cases	Per Cent	Infants	Fetal Mortality	Per Cent
4-8	3	1.0	3	3	100.0
8-12	2		2	2	
12-16	1		1	1	
16-20	1		1	1	
20-24	5		5	5	
24-28	16	1.4	16	13	81.2
28-32	65	5.5	70 ¹	28	38.5
32-36	480	40.6	494 ²	15	3.0
36-40	584	49.4	595 ³	22	3.7
40	25	2.1	27 ⁴	5	18.5

1. Including 5 pairs of twins. 2. Including 14 pairs of twins. 3. Including 11 pairs of twins. 4. Including 2 pairs of twins.

mortality during this period was only 3.4 per cent, a very low figure. Moreover, there was very little difference in the infant death rate among births occurring in the ninth lunar month (32 to 36 weeks) and in the tenth lunar month (36 to 40 weeks), but what advantage there was lay in favor of the earlier termination of pregnancy. The numbers of cases in both groups are of similar magnitude, and large enough for valid statistical comparison. Also, the death rate in those infants that were carried to term or past it showed a considerable increase over that of those born during the last 2 months of pregnancy.

Eleven hundred and sixty-seven infants, or 98.7 per cent of the total 1182, were born before full term; 675, or 58.9 per cent, spontaneously; and 492, or 41.1 per cent, by artificial means. Since over one-half of the mothers of these babies went normally into labor before the completion of their pregnancies, we may assume that the early termination of pregnancy in cases of hypertension and albuminuria is the natural solution of the problem. In the mistaken belief, held, unfortunately, by many obstetricians, that prolongation of intra-uterine life would best insure the survival of more infants, many fetuses have been left by them *in utero* so long that the infants have succumbed to the noxious effects of the disease from which their mothers suffered. In such a situation an active policy is the most successful prophylaxis. But while the policy should be active, it should remain conservative and need not become radical.

Table V shows that in the 429 cases in which we interrupted pregnancy this end was achieved in 321 instances by simple rupture or separation of the membranes, or by the administration of pituitary extract. In 97 cases, or in 8.2 per cent, cesarean section was performed. Adair, reporting 262 cases of nonconvulsive toxemia, states that abdominal delivery was resorted to in 46 cases, which is 18 per cent. In only 24 of our cases was cesarean section performed because

of hypertension and albuminuria alone, and then only when the cervix was long, rigid, and undilated and thus unsuitable for induction by rupture of the membranes. In the remaining cases the indications were: contracted pelvis or cephalopelvic disproportion 33 times, previous cesarean section 11 times, uterine inertia 9 times, placenta praevia 5 times, premature separation of the placenta and heart disease 4 times each, and compound presentation, prolapsed cord, elderly primiparity, spontaneous rupture of the uterus, successful repair of a vesicovaginal fistula, and osteitis fibrosa cystica, once each.

TABLE V
ARTIFICIAL TERMINATION OF PREGNANCY

	Cases	Per Cent of Total
Artificial rupture of membranes....	271	22.9
Stripping of membranes	3	0.2
Pituitary extract	47	3.9
Voorhees bag	9	0.8
Cesarean section	97	8.2
Dilatation and curettage, manual removal of hydatidiform mole, 1 each	2	0.2
	429	36.2

Table VI shows the methods of delivery. Again a trend is shown toward conservatism, since almost 90 per cent were delivered normally, by low forceps or by the breech.

TABLE VI
METHODS OF DELIVERY

(1213 infants, including 32 pairs of twins, plus 1 hydatidiform mole)

	Cases	Per Cent
Normal vertex	795	65.1
Low forceps	242	19.9
Breech	52	4.2
Cesarean section	97	...
Mid-forceps	13	...
Version	12	...
High forceps, dilatation and curettage, manual removal of mole, 1 each	...	...

Results

The success or failure of our policy depends upon the answer to these questions: What proportion of the patients developed eclampsia under our care and how severe was it, and what percentage of the babies and mothers died?

Eclampsia.—Of the 1182 patients, 13 developed convulsions, an incidence of 1.1 per cent, or a ratio of 1:91. Five women had ante partum convulsions; two of them had 1 fit, two 2, and one 7. Eight women had postpartum convulsions; one had 1 fit, two 2, two 3, and three 4. There were no cases of intra partum eclampsia. All but one of the eclamptics lived. This patient, whose pregnancy had been normal, was last seen in the pregnancy clinic 12 days prior to entrance, when her blood pressure was normal, her urinalysis negative, and she was devoid of pre-eclamptic symptoms. While at home she was seized with fulminating eclampsia and had 2 convulsions. She entered the hospital in coma, delivered herself normally soon afterwards of a fetus which presented by the breech, and died 9 hours later of pulmonary edema. Except for this fatality and for the patient who had 7 ante partum convulsions, the type of eclampsia was mild and was readily controlled by the usual medical measures. Nevertheless, since our aim is to prevent convulsions, we freely admit that when any patient under our care develops fits, our treatment in that particular case has failed. In almost every case such a failure results from tardiness in terminating pregnancy. The mortality in the 13 eclamptics was 7.7 per cent, and from eclampsia in the 1182 cases with hypertension and albuminuria it was 0.085 per cent.

Maternal Mortality.—Two of the 1182 patients with hypertension and albuminuria who had been under care in our clinic died, a death rate of 0.17 per cent. In addition to the patient I have just described who succumbed to fulminating eclampsia, another pre-eclamptic died upon whom a cesarean section was performed after a test of labor of 24 hours and one vaginal examination. Local anesthesia was used because of an acute pharyngitis and laryngitis. Routine uterine culture at the operation yielded a non-hemolytic streptococcus.

During the 4-year period from which our statistics are drawn 295 other cases of hypertension and albuminuria, referred by outside physicians and other institutions, were admitted as emergency cases to our hospital. Data derived from these cases have not so far been included in this report because we had no responsibility for their prenatal care, but they will now be considered separately. Three, or 1.0 per cent,

of these women died, which gives a death rate 6 times that of our own registered patients. Although W. J. Dieckmann and I. Brown⁴ state that the average death rate in representative hospitals for nonconvulsive toxemia is 1.7 per cent, and Adair in 1930 reported a series of 262 such cases with 4 deaths, or 1.5 per cent, the mortality rate in the Boston Lying-in Hospital from 1935 to 1938 inclusive in the entire 1477 patients with hypertension and albuminuria, whether registered or emergency, was 0.33 per cent.

TABLE VII
MATERNAL RESULTS (1182 CASES)

	Cases	Per Cent
Developed eclampsia	13	1.10
Died of eclampsia	1	7.67
Discharged dead*	2	0.17
Discharged alive	1180	99.83

Fetal Mortality.—The gross fetal death rate in the 1213 infants was 7.8 per cent, which is 1.6 per cent greater than the general gross fetal death rate, 6.2 per cent, of the hospital during the same 4 years. On the other hand, it should be recalled that the fetal mortality in cases with hypertension and albuminuria delivered between the thirty-second and fortieth week of gestation was only 3.4 per cent. Among the 303 infants born to the 295 mothers who entered the hospital during this period as emergency cases, the fetal death rate was 24.1 per cent, or 3 times that in our registered patients. Here again prenatal care and early termination of pregnancy in appropriate cases show to good advantage.

TABLE VIII
FETAL RESULTS
(1213 infants, including 32 pairs of twins)

	Cases	Per Cent
Discharged alive	1118	92.2
Nonviable and stillborn ...	71	5.8
Neonatal deaths	24	1.9
	95	7.8

Dieckmann reports that in his clinic over 13 per cent of patients with nonconvulsive toxemia were discharged without a living baby, and Adair stated that only 217 living infants were born to 262 such mothers, a fetal mortality of 17.2 per cent. A. J. B. Tillman and B. P. Watson⁵ report a fetal mortality in all cases of toxemia, excluding eclampsia, of 17.2 per cent. Such high death rates indicate that the majority of these cases must have been of an emergency nature and were referred from outside physicians and other hospitals.

* Eclampsia, and peritonitis following cesarean section, 1 each.

Summary

1. That condition which is characterized by hypertension and albuminuria is the most frequent complication of pregnancy which is potentially serious. It occurred 1477 times among 13,978 deliveries at the Boston Lying-in Hospital, a frequency of 1 in 9.

2. The chief basis of this report is a series of 1182 consecutive registered cases of hypertension and albuminuria, who either showed this condition at the time of their first visit or developed it while in our pregnancy clinic, and for whose care we were responsible until they were finally discharged from the hospital.

3. Chemical tests are chiefly valuable in helping to distinguish between pre-eclampsia, hypertensive disease, and chronic nephritis. They are not as important as careful histories, or as frequent visits, determinations of the blood pressure, and urinalyses.

4. Medical treatment has consisted in hospitalization, rest in bed, limitation of fluids, low salt diet, and free saline catharsis.

5. Pregnancy was interrupted whenever the patient grew worse or failed to improve. Artificial termination of pregnancy was effected in over one-third of our cases.

6. In those cases in which pregnancy was interrupted, either artificially or spontaneously, between the thirty-second and fortieth weeks,

the gross fetal mortality was 3.4 per cent, as contrasted with 7.8 per cent for the entire series.

7. Thirteen patients, or 1.1 per cent, developed eclampsia, which, except in 2 instances, was mild in nature and easily controlled. One of these patients died, a mortality of 7.7 per cent.

8. Another patient died of peritonitis following cesarean section. The total maternal mortality, therefore, was 0.17 per cent, or 1.7 per thousand, a figure which will compare favorably with an equal group of normal obstetric cases.

9. Patients with hypertension and albuminuria who receive adequate prenatal care have a low incidence of eclampsia and a low mortality.

10. The infants of such patients have a mortality rate which is somewhat above the normal average. However, the infants delivered before the thirty-second week, and those born after full term, although making up only 10 per cent of the total, supplied 62.2 per cent of the infantile mortality.

11. In cases which do not do well under medical treatment, the termination of pregnancy after the thirty-second week is the most valuable therapeutic measure at our command.

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THE WILL TO LIVE

Stephen Haggard, writing in the *Atlantic* for December, asks whether this "body evolutionary," of which we are all a part, has the will to live. He questions further as to whether it is "so desperately and insanely diseased that it will inevitably destroy itself."

Robert Sherwood's play, "There Shall Be No Night," gives us one answer when it depicts the Finnish physician, at the sound of firing, hesitating a moment, reaching for his medical kit and then, in despair, tearing off the Red Cross insignia, leaving his bag of mercy, and rushing out into the fray. Were there hordes of men bent on murder sweeping across our fair land, many of us might show very similar understandable reactions, but, for the moment at least, we are granted a stay, not to play the ostrich and not to wait like confused children simply waiting our turn, but to address all our efforts to a very active study and analysis of the problem of war itself. Our thoughts, as members of the medical profession, must go beyond the immediate question of "Where is our front line?" "How much aid?" etc., and seek out the basic causes, the antecedents, the social background, the environmental factors, and, most important of all, the cure, if any, for this eroding cancer that infiltrates and destroys the minds and bodies of men directly in times like these and indirectly even in times of so-called peace.

Our medical education teaches us to seek a logical approach to problems, and if we have the will to live and if we would see our sons and grandsons live, we must study and work with this disease; we must hold clinics and seminars; we must experiment and dissect and analyze, for if we do not, all our scientific efforts, our refined armamentarium, our culture, our dreams, our ideals, will be as chaff before the wind.

Henry Pleasants in his "Medicine of the Future" makes the statement: "Medicine of the future will be primarily concerned with the propagation of a healthy race. Men and women of culture and refinement, intelligence, and eugenic backgrounds should be encouraged to raise large families." Cynical and disillusioned, we are apt to say, for what? Perhaps eugenics is the solution; but there should be a more immediate solution.

We have the will to live. If this is vital to us as physicians, let us leave for a moment our cloistered intellectual debate on "the importance of somatotrophic localization" and find out what aberration of the mind makes men bomb millions of helpless women and children to gain their own indefinite ends. We cannot sit in quiet discussion on purely academic subjects while human beings are being swept down within our hearing and before our eyes. This is the disease we must conquer!—*The Medical Reporter (Chester County)*.

Pneumonia Deaths and Deaths from Pneumonia

A Critical Analysis of 131 Deaths Ascribed to Pneumonia

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AS A sequel to the recent analysis of 5977 cases of pneumonia occurring throughout the State of Pennsylvania, the statistical subcommittee of the State Society Commission for the Study of Pneumonia Control has proposed to examine in some detail the data relative to a number of deaths recorded as due to pneumonia. We have felt that it would be of value to know in how many of these there was true pneumonia, and if so whether (1) death was actually due to pneumonia, (2) whether pneumonia was simply a mode of death complicating other illness, (3) or whether pneumonia was a terminal pathology and not a factor in the death.

Due to circumstances beyond our control, the State Bureau of Vital Statistics has been unable to make available in time the necessary data for a large scale survey. Consequently, we are now presenting as a preliminary study an analysis of 131 deaths recorded as being due to pneumonia occurring in the Harrisburg Hospital since 1936. It is hoped that such a preliminary study will be of value in itself and will indicate the need for and direction of further study.

In numerous cases, because of incomplete data or a very short stay in the hospital before death, it was impossible to decide with certainty whether or not pneumonia was present. Accordingly, the cases were classified as follows: Group I, pneumonia; Group II, probably pneumonia; Group III, probably not pneumonia; and Group IV, not pneumonia.

As an aid in classifying the cases, certain criteria were set up. These will be discussed and case histories illustrating the application of these criteria to specific cases will be cited.

Necropsy.—Cases in which necropsy revealed undoubted pneumonia were, of course, placed in Group I. It must be noted, however, that the mere recording of pneumonia as a cause of death

on the necropsy protocol is not to be accepted as pathognomonic evidence of pneumonia. Not all necropsies are performed by experienced pathologists, and it is not surprising, particularly when tissue sections for microscopic examinations are not made, that passive congestion with increased firmness of the lower lobes, areas of atelectasis in the lungs of newborn or premature infants, or even areas of recent infarction are recorded as pneumonic consolidation.

Roentgen Ray.—Roentgen-ray evidence of pneumonic consolidation together with a compatible history and physical findings was accepted as good evidence for the existence of pneumonia. If necropsy may be misleading, the roentgen ray may be also. Infarction, atelectasis, exudative tuberculosis, or tuberculous pneumonia may simulate pneumonia if roentgen ray is considered alone.

Clinical Diagnosis.—The clinical picture of pneumonia may be sufficiently characteristic to permit an unqualified diagnosis of pneumonia even without post mortem, roentgen-ray, or bacteriologic substantiation. Cases admitted to Group I on the basis of clinical data were those with typical histories of sudden onset, chill, fever, cough, pleural pain, blood-tinged and rusty sputum. The condition which probably most closely simulates this clinical picture is infarction, which may be differentiated by the presence of a source for emboli (operation, phlebitis, auricular fibrillation, etc.), less marked chill and more gradual onset of fever, more red cells, and few bacteria in the sputum.

Suggestive Signs

Pneumococci in Sputum.—When it is recalled that pneumococci are present in the mouths of about 50 per cent of healthy individuals, the danger of relying on this finding for diagnosis will be apparent. This is particularly true for the higher types. The presence of Type I or II

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pneumococci or of large numbers of one of the higher types is of greater significance, but nevertheless this finding should be supported by suitable clinical evidence.

Chest Pain, Blood-tinged Sputum, Rusty Sputum, Rapid Respiratory Rate.—These are all signs which are of supportive value in establishing the diagnosis, but of course are not pathognomonic and may indicate pathology other than pneumonia.

Essential Signs

It was felt that there were 2 essentials without which a diagnosis was unlikely. First, there should be evidence of the presence of an infection as indicated by either temperature or leukocytosis, though these may be lacking in the aged or those debilitated from chronic illness. Second, there should be evidence of pulmonary pathology as indicated by either physical signs (râles or consolidation) or roentgen ray. Cases failing to show these 2 essentials were placed in Group IV as definitely not pneumonia.

The following case history abstracts are presented in an effort to show how this survey was conducted:

Typical Pneumonia

A. S., a male, age 32, had been ill for 2 weeks with a slight cold in the head, a slight cough, and a little expectoration. The night before admission the cough became much worse and he developed severe pain in the left side of the chest. The sputum became blood-tinged. Dyspnea was marked and pain in the chest was made worse by breathing and coughing. There was no chill.

Physical examination revealed a dyspneic, well-nourished male, who appeared quite ill. There was flaring of the alae nasi. The chest was limited in expansion over the upper lobes of both lungs. Percussion note was impaired on the upper chest anteriorly and posteriorly. Bronchial breathing was heard over both upper lobes. There were a few crepitant râles over the apices.

The temperature ranged between 103 and 104 F., the pulse 110-140, respiration 50-60. The sputum showed pneumococci. The hemoglobin was 70 per cent, red blood cells 3,950,000, white blood cells 29,100, with 92 per cent polymorphonuclears. The urine showed a trace of albumin.

Diagnosis: Lobar pneumonia (bilateral).

Comment: This patient would undoubtedly have to be placed in Group I. The history and physical examination along with the findings of pneumococci in the sputum and the leukocytosis are certainly sufficient to make the diagnosis, even in the absence of roentgen ray or of necropsy.

J. Z., a male, age 51, spoke practically no English, but he managed to convey to the examiner the fact that he had enjoyed perfect health until 2 weeks before admission. During these 2 weeks he had been too weak to perform his usual duties. Four days before admission he developed dyspnea, pain in the right side of the chest, cough, and expectoration.

Physical examination revealed an acutely ill, obese white male, who was quite cyanotic and dyspneic. He had a severe cough which was productive of a thick, greenish-yellow sputum. Expansion of the entire right side of the chest was greatly decreased. Percussion note over right side of chest anteriorly and posteriorly was very dull. Percussion and pressure on right side of chest elicited pain. Bronchial breathing was heard over the entire right side of chest.

The temperature was 105 F., pulse 140, and respiration 40-50.

Roentgen ray of the chest revealed a dense, confluent shadow involving the entire right lung, which the roentgenologist felt represented a pneumonic condition. There were 14,900 white blood cells, with 95 per cent polymorphonuclears.

Diagnosis: Lobar pneumonia.

Comment: Here a satisfactory history is lacking due to language difficulty. However, the physical examination with confirmatory roentgen-ray findings is sufficient to place this patient correctly in Group I.

Probably Pneumonia

J. D., a male, age 82, was semicomatose and mentally deficient. A history was unobtainable.

Physical examination revealed an aged, dyspneic, unco-operative male, lying in bed with head elevated. The temperature was 101.6 F., pulse 110, respiration 36, and blood pressure 110/50. There was marked generalized arteriosclerosis. He had a dry coated tongue. There was a frequent feeble unproductive cough. Expansion of the chest was generally limited. There was patchy impairment of the percussion note in the left side of the chest with scattered crepitant and subcrepitant râles most marked in the left lower lobe. The cardiac area was enlarged, heart sounds were indistinct, and the rhythm was irregular. The liver was palpable. There were 29,300 white blood cells. The blood urea was 88.

Diagnosis: Bronchopneumonia.

Comment: The chest findings, temperature, and especially the leukocytosis in this aged an individual are quite suggestive of an infective process in the lungs. Undoubtedly there was a marked cardiovascular element in addition. There are no proofs of pneumonia here such as a roentgen ray or absolutely "air-tight" history and physical examination, but it is entirely probable that this patient had some pneumonia.

Incidental Terminal Pneumonia Associated with Other Fatal Illness

J. A., a male, age 32, had been perfectly well until the day before admission to the hospital, when he was seized with colicky abdominal pain in the left lower quadrant, radiating to the umbilicus and accompanied by a frequent urge to stool. He had several clear liquid bowel movements. He saw a physician the day of admission, who referred him to the hospital. There was no previous digestive history.

Physical examination revealed a rounded, distended, tensely rigid abdomen with marked tenderness on the left side. The temperature was 99.4 F., pulse 90, respiration 20, and white blood cells 13,300. The urine was negative.

A diagnosis of generalized peritonitis from a ruptured viscus was made, and it was decided to wait for localization before operating.

On the fourth day râles appeared in the lower lobes of both lungs. This was followed by respiratory dis-

tress and cough. On the sixth day Type XX pneumococci were isolated from the sputum. The patient died on the eighth day.

Necropsy examination revealed gangrene of the ileum and colon with generalized peritonitis and an inflammatory involvement of both lower lobes of the lung.

Diagnosis: Bilateral lobar pneumonia, and gangrene of the colon and ileum due to disturbance of circulation.

Comment: The cause of death in this case was given as bilateral lobar pneumonia, and the abdominal findings were made contributory. It seems quite obvious from the history that this man's difficulty started in his abdomen, and it is a well-known fact that with as much inflammatory reaction below the diaphragm as was here presented, certainly some of the reaction will be transferred to the lower lobes of the lungs. Undoubtedly, as a terminal picture, some inflammatory involvement of the lungs was present, and since many of the higher types of pneumococci may be present in normal individuals, Type XX may have become a secondary invader, but we feel that this patient certainly did not die from the pneumonia.

Pulmonary Edema of Cardiac Origin Mistaken for Pneumonia

C. K., a female, age 76, fell downstairs about 3 a.m. She was not unconscious, but could not walk and had to be carried back to bed. She was removed by ambulance to the hospital, complaining of severe pain in the left hip. Systemic review revealed the fact that she had dyspnea at rest and severe dyspnea and precordial and substernal pain, which radiated to the back following exercise. For this reason she moved about very little.

Physical examination revealed an elderly female moaning with pain, lying uncomfortably in bed, and breathing hard. She had an emphysematous chest that was markedly limited in expansion. There were areas of hyperresonance and bronchovesicular breath sounds. Inspiratory râles were heard at the bases of both lungs. The heart was greatly enlarged to the left. There were frequent extrasystoles and the sounds were of poor quality. Systolic and diastolic murmurs were heard at the apex. There was helpless eversion and shortening of the left leg.

Roentgen ray revealed an intertrochanteric fracture of the left femur.

Pain was controlled with narcotics and on the tenth day a body cast was applied. Patient was discharged by ambulance on the twelfth day without any medications.

Seventeen days following discharge from the hospital, she was readmitted in a semicomatose condition and with very labored respirations. There was marked cyanosis. Dullness and crepitant râles were noted in the bases of both lungs. The heart examination was the same as before, plus a pulse deficit of 16 beats per minute. The liver was palpable 2 fingers below the right costal margin. There was pitting edema of both lower extremities. The temperature ranged between 99 and 100.6 F., the pulse 110-120, and respiration 30-40.

The urine was positive for albumin and contained granular casts. The hemoglobin was 68 per cent, red blood cells 3,800,000, white blood cells, 9300, polymorphonuclears 84 per cent, lymphocytes 16 per cent. The blood urea was 35 mg. per 100 c.c.

Diagnosis: Hypertensive heart disease with auricular fibrillation and lobar pneumonia.

Necropsy examination revealed hypostatic congestion

of the lower lobes of both lungs, a very large heart, small white scars in wall of left ventricle, and calcareous deposits of the aortic valves.

Comment: Here was a patient obviously in cardiac decompensation from the time of her first admission. She was sent home in a body cast, and when readmitted, the decompensation was obviously much worse. No history of pneumonia was present, typical physical findings were not found, and necropsy failed to confirm the diagnosis. This patient's death was obviously due to the fracture and heart disease.

L. W., a female, age 59, was admitted to the hospital with a history of cough, dyspnea, substernal and precordial pain on exertion, and edema of the ankles for 10 years.

Physical examination revealed an emaciated female sitting up in bed, very dyspneic and apprehensive. The lungs were clear. The heart was enlarged to the right and left. Systolic and diastolic murmurs were heard at the apex. There was a diastolic murmur at the base radiating down to the left of the sternum, also capillary pulsations and a Corrigan pulse. The blood pressure was 164/60.

The course of this patient in the hospital was a long and varied one. At no time did she present any signs of consolidation of the lung, although toward the end she did develop basal râles. Her temperature rarely was above 99.6 F. except terminally. The blood Wassermann reaction was plus 4.

Diagnosis: Syphilitic disease and bronchopneumonia.

Comment: We are in accord with the diagnosis of heart disease, but we see no evidence for the diagnosis of bronchopneumonia. We might add that a roentgenogram of the chest was taken and the roentgenologist suggested that the shadows seen in the lungs were more suggestive of a vascular disturbance than of pneumonia. We do not feel that pneumonia in any way enters the picture.

Postoperative Embolus Mistaken for Pneumonia

H. E., a male, age 14, was admitted to the hospital with a history of onset of abdominal pain, localized in the right lower quadrant 6 hours previously. There was no nausea or vomiting, and no previous attacks.

Physical examination revealed marked localized tenderness and rigidity in the right lower quadrant. The temperature was 100.2 F., pulse 100, respiration 26, white blood cells 12,350. An appendectomy was performed and a badly diseased retrocecal appendix removed.

The patient was in a perfectly satisfactory condition for 24 hours postoperatively, then suddenly became dyspneic. The pulse was 140 and the temperature 104 F., which a few hours later rose to 106. Some blood-tinged mucus was coughed up. The patient died about 6 hours after the onset of this picture—limited expansion, distinct breath sounds, and a few râles in the lower lobe of the right lung.

Diagnosis: Lobar pneumonia and acute appendicitis.

Comment: There might conceivably have been a pneumonia, but it seems that a pulmonary embolus would more nearly fit the picture. The extremely sudden onset following surgery with prompt death is more likely to be a vascular accident than a lobar pneumonia.

Probably Not Pneumonia

D. B., a female, 5 months of age, was admitted to the hospital with a history of diarrhea and vomiting of 4

days' duration, very foul stools, and a purulent discharge from both ears for one week.

Physical examination revealed no abnormal signs in the chest and the heart was normal. There was a purulent discharge from both ears. The temperature was 103 F., white blood cells 10,400, polymorphonuclears 69 per cent, lymphocytes 26 per cent.

The patient died within 36 hours of admission.

Diagnosis: Suppurative otitis media, acute gastroenteritis, and bronchopneumonia.

Comment: There was no mention made any place on this patient's chart of any abnormal chest signs, and although one could easily conceive of pneumonia as a complication in this case, there was nothing on the chart to substantiate the diagnosis. We feel, therefore, that although pneumonia could have been present, it probably was not in this case.

Not Pneumonia

F. S., a male, age 34, had severe abdominal pains the day before admission to the hospital. He took a laxative and went to work. The pain became worse and he took an "Alka Seltzer" without relief. Finally, he consulted a physician. The pain was then localized to the right lower quadrant. He had been constipated for 2 days previously. Following the removal of a gangrenous appendix, the patient remained quite toxic and vomited frequently. There was a great deal of abdominal distention with foul discharge from the wound. The skin was cold and clammy. On the fourth postoperative day the patient fell out of bed. The toxic condition and picture simulating shock continued. It was noted repeatedly that the chest was clear.

The patient died on the seventh postoperative day.

Diagnosis: Acute gangrenous appendicitis with peritonitis, and bronchopneumonia.

Comment: There was nothing in this patient's picture whatsoever to point to the chest. All physical findings were abdominal and it was clearly stated repeatedly that the chest was clear. We take exception, therefore, to the diagnosis of bronchopneumonia.

L. W., a female, age 50, was completely deaf and dumb and could neither read nor write. There were no relatives, so that it was impossible to obtain a history.

Physical examination revealed a fairly well-nourished white woman lying flat in bed with rapid shallow respirations, cyanotic lips, sluggish pupils, and carious teeth. There were marked injections of the posterior pharyngeal wall. Examination of the chest revealed limited expansion in the left and right lower lobes anteriorly. The percussion note was slightly dull over these areas. Fremitus was well transmitted and breath sounds were accentuated in the same region. Many crepitant and subcrepitant râles were heard. The heart was enlarged to the left beyond the mid-clavicular line. The second pulmonic sound was greater in intensity than the second aortic sound. There were no murmurs, and no ankle edema was present. The temperature ranged between 97 and 99.2 F., except at the terminal stage when it rose gradually to 102. The respirations ranged between 30 and 40, and the pulse rate from 100 to 130.

The urine was essentially negative. The hemoglobin was 87 per cent, red blood cells 4,000,000, white blood cells 5500, polymorphonuclears 87 per cent, lymphocytes 13 per cent. The blood Wassermann reaction was plus 1.

On the tenth day of hospitalization the patient developed a left-sided hemiplegia, and on the sixteenth

day she died rather suddenly with the following picture: marked cyanosis, rapid labored breathing, a feeble, rapid, irregular pulse, very indistinct heart sounds, and a chest full of coarse, bubbling râles.

Diagnosis: Alcoholic addiction and lobar pneumonia (pneumococcus).

Necropsy examination: Both lungs were normal. The heart was enlarged and vegetations were found on the wall of the right auricle. The liver showed passive congestion. The spleen and kidneys showed multiple infarcts—old and new. The cerebrum showed large soft areas of degeneration in the right hemisphere.

Comment: Here is a patient in whom a diagnosis of pneumococcal lobar pneumonia was made in spite of the fact that the patient did not have absolute signs of consolidation, no marked elevation of temperature, no leukocytosis, no chest roentgen ray, no sputum showing pneumococci, and no history. She did have very evident signs of heart failure from the beginning, and it is our opinion that this patient died due to her heart condition and its secondary embolic phenomena. The necropsy examination bears out this contention and eliminates pneumonia as a part of the picture.

Results of Study

Analyzing our 131 cases in the manner indicated, we grouped them as follows:

	Cases	Per Cent
Group I—Death due to pneumonia ..	75	57.2
Group II—Death probably due to pneumonia	22	16.7
Group III—Death probably not due to pneumonia	13	10.0
Group IV—Death not due to pneumonia	21	16.0

Further examination of the cases enabled us to classify them as follows:

	Cases	Per Cent
Death actually due to primary pneumonia	76	65.5
Death due to pneumonia secondary to or following other illness	26	26.4
Incidental terminal pneumonia	14	12.0

Conclusions

In such a small series of cases we feel that it would be presumptuous to draw any definite conclusions, but certain potential facts have presented themselves as a result of this study, namely:

1. Deaths recorded as being due to pneumonia cannot be accepted at their face value for statistical purposes.

2. Many errors could be avoided by a more careful editing of the patient's chart.

3. Certain pitfalls appear to be common in the diagnosis of pneumonia, as follows:

a. Râles in the chest plus a temperature do not equal pneumonia.

b. Roentgen-ray evidence of infiltration or consolidation does not indicate pneumonia, unless supported by proper clinical findings.

c. Pneumococci in the sputum are by no means proof of the presence of pneumonia.

d. Even at necropsy a diagnosis of pneumonia, unless made by one experienced in morbid anatomy, may be in error if based on only gross appearance and feel.

e. Postoperative atelectasis or pulmonary infarction are often mistakenly diagnosed pneumonia.

f. Congestive failure of the heart may be associated with continued fever, increased respiration, leukocytosis, and pulmonary signs, usually bilateral, and even pneumococci.

ABSTRACT OF DISCUSSION

WENDELL J. STAINSBY (Danville): Dr. Faller's paper is particularly appropriate at this time, and points out at least one weakness in our pneumonia control program.

It might be well to review for a minute just what the pneumonia control program has actually accomplished in Pennsylvania. As you know, it began about 5 years ago and really showed results during the past pneumonia season. Last year, laboratory aids to the physician in the treatment of pneumonia were available throughout the state. Likewise, sulfapyridine and sulfathiazole, as well as antipneumococcus serum, were made available to the physicians in treating patients who could not afford same.

As a result of this whole pneumonia control program, there has been a great increase in the reporting of cases to the State Department of Health, and there has been far greater use of laboratory aids and of specific remedies, so that now the Department of Health is able to report a marked reduction in the mortality rate of pneumonia for the past pneumonia season as compared with other parts of the country.

I should like to emphasize that pneumonia cannot be diagnosed by any means other than through clinical examination. The presence of pneumococci in the sputum does not necessarily indicate pneumonia; likewise, as Dr. Faller pointed out, the roentgen-ray findings do not definitely diagnose pneumonia. In other words, we do not have in pneumonia any test comparable to the Wassermann reaction in syphilis or the Widal reaction in typhoid fever. I think, therefore, that Dr. Faller's analysis of these cases, which are probably representative of what may be found throughout the state, should permit us to recommend or suggest that a slogan of the Pneumonia Control Commission might very well be: "Better clinical diagnoses for 1940 and 1941."

JOHN J. SHAW (Harrisburg): First of all, I want to congratulate these men on their painstaking paper. They must have spent a great deal of time in reaching their conclusions and in getting together these statistics.

Being interested in the Pneumonia Control Program during the past year, it, of course, brought forcibly home to me a good many things, a few of which I should like to mention now.

First and foremost, the diagnosis of pneumonia becomes an important procedure if we are to know how well our program is going. As Dr. Stainsby said, it should be our watchword to make better clinical diagnoses. Now, how can the State Department of Health help, and what shall we add to our program whereby the physicians will be helped to make better diagnoses?

Second, with the statistics that have been given, showing a diversity of diagnoses of anywhere from 5 to 16 per cent of cases, and with our mortality in all reported cases last year at 10 per cent (and by "all cases" I mean those that were labeled pneumonia without investigation, those patients with so-called pneumonia who died an hour after admission to the hospital or an hour or so after the attending physician had seen them, those cases of pneumonia that were complicated by cancer, tuberculosis, etc.), I believe that we could justly take off 5 per cent of that 10 per cent. In all probability we did better than we had any idea, and I think we are safe in assuming that.

Now, what shall we do next year so that we shall rightfully know what side of the ledger we are on? If we continue as at present, even with the addition of sulfathiazole, in all probability the mortality will still hover around 10 per cent, but in selected cases with proper diagnoses, and with the attending physicians treating pneumonia in the 1940 style, we should be able to reduce the mortality so that it will approximate 5 or 6 per cent. If we could attain that objective for all time, we could all feel justly proud.

There are 2 things that I should like to stress. First, I would make the suggestion to Dr. Bortz and Dr. Brown that if they will start a drive to standardize all of the laboratories in the state for the typing of pneumonia, I will very heartily co-operate with them. If that is done, I believe we shall go a long way toward lowering the death rate from pneumonia.

Second, I should like to suggest to Dr. Bortz for his consideration with the Pneumonia Control Commission that a mandatory white count be added to the laboratory routine in our typing stations. If we have a mandatory white count and good, up-to-date, and efficient typing laboratories, I think we will be able to point to individual cases and say in the great majority of them, "This is pneumonia." Then we shall have statistics that will be worth while. I cannot suggest this to the physicians, as it is none of my business. I am the clearinghouse through which the physicians can use the Department of Health for the betterment of their activities. But I will guarantee Dr. Brown and Dr. Bortz my wholehearted co-operation, both in technicians and in financial support, if they can see fit to start such a drive, which I believe is a move in the right direction.

DR. FALLER (in closing): In conclusion, I would just reiterate that it is still the clinical picture that provides the true diagnosis of pneumonia. It would be very interesting to know the mortality statistics of pneumonia in Pennsylvania. I still think a great many cases of pulmonary embolism, especially those of congestive heart failure, are labeled pneumonia terminally. They only clutter up our statistics and prevent a fair evaluation of the true cause of death.



Round-Table Discussion of the Pneumonia Control Program

The following discussion of the Pneumonia Control Program took place Oct. 2, 1940, at a meeting of the Section on Clinical Laboratory Medicine during the Ninetieth Annual Session of The Medical Society of the State of Pennsylvania in Philadelphia:

EDWARD L. BORTZ (Philadelphia): Yesterday we had a meeting of the Pneumonia Control Commission in conjunction with the various county medical society committees. A number of important points were brought up there, problems that we have met in our studies and work in this field during the past year. We were privileged to have Dr. Adolph S. Rumreich of the United States Public Health Service as our guest speaker. He stated that some 34 state pneumonia control programs are now being carried on in this country. Dr. Rumreich was lavish in his praise of the program as it is going in Pennsylvania.

Briefly, our setup is as follows: By Dr. Shaw creating a Division of Pneumonia Control and engaging Dr. Dale C. Stahle of the University of Pennsylvania to act as director, 178 typing and distributing centers were created at strategic points throughout the state. Insofar as possible, these stations were established in regions where the pneumonia cases were most prevalent. Obviously, it is impossible to establish a center in every single, small community throughout the entire state. Pennsylvania is one of the great industrial states of the Union and has a population just under 11 million. There are some 13,000 physicians, of whom 9400 are members of the State Medical Society, and more than 300 of them are interested in this problem of pneumonia control.

I think that the pneumonia program must be Dr. Shaw's pet, because every time you come within speaking distance of him, he starts talking pneumonia, and he has some new ideas. He has left no stone unturned. He is jealous of the situation in Pennsylvania, and he wants to have the very best program in the entire nation. We already have that.

Dr. Shaw and Dr. Stahle in the Department of Health can only do so much. The key to the situation is the physician who sees the cases. Supporting the physician—the power behind the throne, as it were—is the laboratory. Unfortunately—and we must talk frankly here—not all of the laboratories are giving us their best support. We need that to make this program a success.

There has been a lot of rather indifferent work done in the examination of specimens. Of course, it is not entirely the laboratory's fault; it is partly in the collection of specimens. I realize very well that when you want sputum from the lungs and get only saliva from the anterior part of the mouth, it is not going to help.

The spark plug of any hospital is usually the pathologist. He knows the story; he knows where the

weak points are; he is the man who can check the clinician. He is in an exceedingly favorable position, and as far as hospitals are concerned, it would seem that the pathologist is the ideal person to help us to put this program across.

I asked for time on the program today because of the obstruction that we have met in our work. If the laboratory men, the clinical pathologists, and the technicians under their supervision will give us more support in the matter of diagnosis and examination of specimens, it will help greatly. When you do not get a proper specimen for examination, let the clinician in the hospital know, and insist upon getting the proper type of sputum or blood for the examination.

I have been turning over in my mind, Dr. Brown, the question of whether or not a study of the laboratories might be made by a committee, or possibly your entire section could take on the responsibility of reporting every positive finding of pneumococci in the sputum or blood of cases, whether they are pneumonia cases or not. If all positive examinations were reported, we could then tell immediately the epidemiology of the pneumococcus in Pennsylvania. Such a study has never been made. I have talked to a number of physicians and they say it can be done in Pennsylvania.

One other point I would like to make is this: I would like to see a check-back on every patient who dies with pneumonia. In Philadelphia during the coming season we are planning to have our local Pneumonia Control Committee work with the city Department of Health, and every death from pneumonia will be thoroughly investigated. In that way we will obtain a lot of valuable data that has never before been collected.

The dawn of a new day is at hand in the management of pneumonia patients in Pennsylvania, and we are setting the pace for the nation. That comes from the United States Public Health Service. We have a man in the State Department of Health at Harrisburg who is exceedingly ambitious to make a record in the field of public health for the benefit of 11 million men, women, and children. The eyes of the nation are watching Pennsylvania. Dr. Rumreich said they are sending representatives from different states to Pennsylvania to study the means that are being used here for carrying on this program. But in the last analysis, the State Department of Health, Dr. Shaw, and Dr. Stahle can only do so much, and then it is up to the physician who sees the cases, and it is up to the laboratory men to put a check on the slovenly work that is being done. In that way we will be able to carry on our program a good bit better than it has ever been done before.

I must say in my 5 years' experience in this work, more or less as a field worker, that it is easier now than it ever was before. There was a certain amount of indifference on the part of the physicians at first, but that day has passed. The physicians are responsive, and so is the public. We have a great program for

educating the laity as to the importance of reporting promptly to the physician when any troublesome respiratory infection develops. Then physicians will see their patients early, have more patients, make more money, and less patients will die. All the way through everybody will be benefited. That is an end to be desired.

The State Department of Health just recently has made available, to every physician in the state, sulfathiazole and sulfapyridine and every type of antipneumococcal serum that has proven practical and effective. They can be obtained day or night in any section of the entire state.

What more can Dr. Shaw do than that? If there is something more and you will tell him, I can promise you he will come through, because I have many times gone to him asking for this, that, or the other thing until I have been a perfect nuisance; but if I could justify my request, he has come through. Not once have I or any other physician been turned down.

There we stand at the present time. What are we going to do about it? I do hope that we can have the support of this important new Section on Clinical Laboratory Medicine, because if you specialists who really know the difficulties of diagnosis will help the physicians in treating their cases, it will help tremendously, representing as you do the large and the small laboratories throughout the entire state. You can also help us to have every one of our cases reported—not only those that are receiving diagnostic service, serum, and chemotherapeutic agents through the facilities of the state but every private case. We want every patient in private practice outside of the hospital and in the hospital reported directly to Dr. Stahle. He already has the finest statistics on pneumonia that have ever been collected anywhere in this entire country.

I was happy yesterday when we had 50 men report. We once more went over our program, and it is going better now than ever before. This program in Pennsylvania is something that every physician ought to take great pride in and the public should find great comfort in it.

With your permission, I will ask Dr. Stahle to give you a few of the high lights of the program. There is splendid co-operation between the public health authorities and the physicians. Dr. Stahle has gone up and down and across this state and has done a grand piece of work in the past year. We are just beginning to cut down, and I say that we can cut down still more, the mortality rate from pneumonia.

DALE C. STAHLE (Harrisburg): I have very little to add to what has already been said. We are very much encouraged by the fine response to our program on the part of the physicians, and are especially happy to know that laboratory facilities have been extensively used during the past season. In approximately 50 per cent of cases reported to us a specific typed pneumococcus has been isolated from the sputum. This is a very high percentage, I believe, and is as high as reported by many of our better hospitals. In about 70 per cent of our cases, sputa have been submitted for examination. Unfortunately, these figures do not apply to all hospitals, some reporting as high as 85 per cent in successful typings, others as low as 5 per cent.

We agree with Dr. Faller that a clinical diagnosis is of great importance, but from the standpoint of statistics and a statistical evaluation, the clinical diagnosis, because of the personal factor and the wide variations in personal judgment, is a rather indefinite basis for

comparison. We must have some hard and fast criteria on which to base our diagnoses which are acceptable to those physicians who are working in the field, and at present these criteria are primarily laboratory in nature.

When we compare our results with those of Maxwell Finland, Perrin Long, etc., we have to show how many blood cultures were positive, how many sputa were positive, what the leukocyte response was, the age groupings of the patients, the presence of complications, etc. The laboratory can give us, if properly used, very valuable information in this regard.

All physicians must contact the laboratory to obtain materials for treating their patients, and if we will take advantage of this opportunity to supply them with blood culture bottles, sputum containers, etc., and explain the advantages of obtaining these specimens, I am sure the number of specifically diagnosed cases will increase. A great deal of good work can be done by the pathologists in spreading the gospel.

As I said a moment ago, we are very much encouraged by the response and fine co-operation received from our pneumonia control stations. Without the complete co-operation of these laboratories, obviously our program could not operate, we could not get the therapeutic materials into the hands of the physicians, and laboratory service would be out of the question. Laboratory reports submitted from these stations give us our entrée to the physician and supply us with information necessary to follow up should the physician fail to complete his clinical form.

We are desirous of co-operating in every way possible with Dr. Brown and his section. If there is need for further stations, we will be glad to receive your suggestions and act accordingly. If some of our stations operating at the present time are not meeting specifications, we will discontinue their operation and set up new stations in areas where they can serve to better advantage.

CLAUDE P. BROWN (Philadelphia): I don't know how important this may seem, but I find that the private physician has been much impressed with the idea that you can do a sputum diagnosis within a few minutes and only one specimen is necessary. Fortunately, in the clientele that we see we are able to change this in the majority of cases, but I believe if there was more general emphasis of the rule that one sputum is not necessarily satisfactory and that it cannot in many cases be done in half an hour, it would help further. The physician should persist in sending the laboratory additional specimens for examination until a definite diagnosis is made by the laboratory.

JOHN B. McALISTER (Harrisburg): As one who has been in the practice of medicine for 52 years, I just want to add a word of encouragement to those who are doing this important work. I was a student in medicine when antisepsis in surgery and the great advancements in public health began. I am proud to say that the present health department under Dr. Shaw is up to the standard established by Dr. Samuel G. Dixon. I have seen the eradication of smallpox, typhoid fever, diphtheria, and other diseases, and I believe that, under the leadership of Dr. Bortz and his commission, pneumonia will be eradicated in the course of a few years.

LAURENCE C. MILSTEAD (Allentown): Concerning Dr. Shaw's suggestion that a white blood count be included as a necessary part of the study of patients with pneumonia who are to be treated with materials furnished by the State Department of Health, I can see

another advantage besides the knowledge gained from the leukocyte count and differential study, in that it would serve to bring either a pathologist or a competent technician in direct contact with the patient. In this circumstance it will be possible to obtain another specimen of sputum if the first specimen submitted had been found unsuitable for typing. The results of the leukocyte count may also serve as an added incentive to the technician to persist in her efforts to find a type-specific pneumococcus in instances of high absolute or relative leukocytosis.

To be of value, of course, the leukocyte count must be obtained after the patient is considered to have symp-

toms of pneumonia. I say this because in the post-operative and other intercurrent forms of pneumonia it would be of no material help to tabulate the result of the routine blood count performed at the time of the admission of the patient to the hospital simply in order to fulfill the letter of the law.

I am in favor of any measure that will enable us to obtain a higher proportion of type-specific reactions in cases of pneumonia. I favor this suggestion made by Dr. Shaw because it may well serve to engender an additional bond of interest between the laboratory personnel and the patient and thereby react to the patient's advantage.

GOOD ADVICE ON PUBLIC SPEAKING

(Review before any and every talk)

The Brown Publishing Company, of Blanchester, Ohio, recently published some timely tips on public speaking. In view of the fact that an increasing number of physicians are being invited to speak before lay groups, their suggestions are reproduced.

Principles

"1. Always know in advance what you are going to say. Avoid nervous habits such as rubbing the chin, fingering the buttons on your coat, etc.

"2. Pause a moment before beginning to talk after you get on your feet. A short purposeful silence always gets attention—it gives the audience a chance to compose itself.

"3. Speak slowly and distinctly—articulate each word—pronounce each syllable correctly. Do not speak too loudly at first—cultivate the easy but firm delivery.

"4. Talk to your audience in the back of the room—not to the men near you.

"5. Be yourself—don't pose—show by your manner that you know your subject.

"6. Avoid unnecessary repetition. Quote a few facts and figures—they serve to give your words the weight of authority.

"7. Loosen up—practice a few gestures—not too many—to give emphasis to your delivery.

"8. Use dramatic pauses. A pause in the right place is eloquence. It focuses attention and crystallizes interest.

"9. Develop a variety of tempo. Don't drone or have a sing-song delivery. Give inflection to important thoughts and sentences.

"10. Finish vigorously. Hold up the last sentence and when you have finished, pause a moment, bow slightly—don't say 'thank you'—just quit and sit down.

"11. Allow yourself plenty of time before the date of your address to build up your talk. Jot down all the points you want to cover and arrange them in proper sequence.

"Remember, public speaking is just like making a sales talk to an individual.

Specific Points

"Arrange your talk to get your audience to agree with you—quoting a few facts or figures that your audience knows to be correct will accomplish this.

"1. Introduction. A word or two of local interest—

reference to previous speakers or tactfully complimenting the audience.

"2. Tell a story if you have a good one—otherwise this is omitted.

"3. Arguments or opinions.

"4. Climax—put over vigorously with gesture and emphasis in the voice.

"5. Conclusion or summary if necessary. Usually it is best to quit at the end of the climax.

"Avoid reading manuscript—it is monotonous and boring to the average listener.

"Don't attempt to be funny. Earnestness, dignity, and poise are far more valuable than attempting to be a humorist."

NO DANGER OF SHORTAGE IN WORLD'S QUININE SUPPLY

The world's supply of quinine, "world-wide remedy for malaria," has remained in Dutch hands, free from Nazi domination, and "no danger of a quinine shortage anywhere in the world" exists.

This reassuring statement comes from Norman Taylor, director of the Cinchona Products Institute, Inc. (*Science*, Dec. 20).

Prior to the Nazi invasion of Holland, on May 10, Amsterdam was the headquarters of this quinine industry. On May 14, 1940, the management of this industry was transferred by royal decree to Bandoeng, Java. Mr. Taylor explains, with the "scarcely necessary" warning to have no further communication with the former headquarters in Amsterdam for fear such correspondence would be diverted to Nazi ends.

"Java is now the center of the world's quinine industry, where ample production is assured of both cinchona bark and manufactured quinine," Mr. Taylor states. "The latter is produced at the Bandoengsche Kininefabriek, the largest quinine factory in existence. There is thus no danger of a quinine shortage anywhere in the world.

"The quinine industry, now centralized in the Netherlands East Indies, is completely Dutch and completely determined that Holland's plight shall not be turned to Nazi advantage. That attitude also actuates those connected either with the sale of Dutch quinine here or with the research and educational program of that industry."—*Science News Letter*, Dec. 28, 1940.

Pneumonia in Children

A Review of 1000 Consecutive Cases of Lobar and Bronchopneumonia in Children Treated Without Specific Therapy

JOHN W. HOLMES, M.D., J. ALBRIGHT JONES, M.D., and
NATHAN H. EINHORN, M.D.

Philadelphia, Pa.

THE definite trend toward the use of specific measures in the treatment of pneumonia is exemplified by 2 therapeutic procedures; namely, type-specific sera and sulfapyridine. However, major obstacles to the use of sera in the treatment of pneumonia in children are often encountered. The employment of sulfapyridine and related drugs has been generally more satisfactory. Reports of the efficacy of these newer therapeutic measures are appearing in the literature with great frequency. In order to evaluate properly the results of specific therapy, it seemed definitely worth while to gather data relating to the duration, mortality, and incidence of complications derived from a large control group of cases receiving no specific therapy whatsoever and to include cases studied over a period of several years so as to preclude the factor of yearly variation in the virulence of the causative organism.

Method of Procedure

The case records of patients admitted to the 6 pediatric services of the Philadelphia General Hospital were studied. Excluded from this survey were all cases in which serum, sulfanilamide, or sulfapyridine were used. This investigation started with the data from a case admitted on Dec. 31, 1938, and retraced 1000 cases to Mar. 1, 1933. Included in this survey are 8 cases under age 12 treated nonspecifically in the medical wards because the children were too large for the pediatric beds.

Cognizant of the fact that any estimate of the

general morbidity of pneumonia is open to question, nevertheless the data available from this survey was analyzed in that respect. From Jan. 1, 1933, to Dec. 31, 1938, there were 6349 general admissions to the pediatric wards of the Philadelphia General Hospital, of which 1076 were cases of pneumonia, a ratio of 1 to 5.9 (Table I). This investigation does not include all of the 1076 pneumonia patients admitted to the hospital during this period since a total of 1000 was obtained when Mar. 1, 1933, was reached.

TABLE I

MORBIDITY OF PNEUMONIA IN CHILDREN FROM 1933 TO 1939 TOGETHER WITH YEARLY MORTALITY RATE

Year	1933	1934	1935	1936	1937	1938
General admissions	975	1095	1063	1098	1061	1057
Cases of pneumonia	176	154	207	186	130	223
Total deaths	12	24	15	13	13	11
Case fatality (per cent)	7	16	7	7	10	5

In recent reports most investigators who have been using chemotherapy in the treatment of childhood pneumonia have not attempted to separate lobar from bronchopneumonia. But, since the cases in this study have been so classified, it was felt that the results could best be evaluated by continuing such a classification. Consequently the present series was divided into 2 groups—lobar pneumonia (537 cases or 53.7 per cent) and bronchopneumonia (463 cases or 46.3 per cent) (Table II). Cases were included in one or the other of these 2 groups on the basis of the following: clinical course in the hospital, record of the physical findings, roentgen-ray (284 cases) and postmortem studies (56 cases) where available. All were further analyzed so as to include the possible rôle of age, sex, and color in the incidence of pneumonia.

Read before the Section on Pediatrics of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 3, 1940.

From the Pediatric Department of the Philadelphia General Hospital, and the Philadelphia Institute for Medical Research, Philadelphia, Pa.

We wish to thank Drs. Julius Blechschmidt, William N. Bradley, Ernest L. Noone, Edward S. Thorpe, and Harry Lowenburg, Sr., chiefs of the pediatric services, for permission to use records of cases treated in their services.

Etiology

Age.—Of the 537 cases of lobar pneumonia, there were 82 under age 2 and 455 between the ages of 2 and 12 years, a ratio of 1 to 5.5, indicating definitely the preponderance of lobar pneumonia in the older age group. This relationship was reversed in the 463 cases of bronchopneumonia, in which 319 occurred under age 2 and 144 between the ages of 2 and 12, a ratio of 1 to 2.2. Thus, in this survey, lobar pneumonia was 5 times as common in the older age group as in the younger group, while bronchopneumonia occurred twice as often under age 2 (Table II).

Sex.—Pneumonia was encountered more frequently in males than in females. Altogether there were 320 males and 217 females in the lobar pneumonia series; 249 boys and 214 girls in the bronchopneumonia series (Table II). This predominance in the male is a common finding.

TABLE II

ANALYSIS OF 1000 CONSECUTIVE CASES OF PNEUMONIA IN CHILDREN UNDER AGE 12 TREATED IN THE PEDIATRIC DEPARTMENT OF THE PHILADELPHIA GENERAL HOSPITAL FROM 1933 THROUGH 1938 WITHOUT SPECIFIC THERAPY

	Lobar Pneumonia 537 Cases		Bronchopneumonia 463 Cases	
	Under 2 Years	Over 2 Years	Under 2 Years	Over 2 Years
Total number of cases	82	455	319	144
Male	45	275	183	66
White	13	170	93	39
Colored	32	105	90	27
Female	37	180	136	78
White	14	121	66	37
Colored	23	59	70	41

Race.—In the lobar pneumonia group there were 318 white children as compared with 219 colored. The difference in incidence in the colored and white races was negligible in the bronchopneumonia group, there being 235 white children as compared with 228 colored (Table II).

Season.—It has been generally recognized that pneumonia is much more common during the winter months than at any other time of the year. This belief was substantially confirmed, as shown in Fig. 1. The lowest incidence was observed during the month of August with 18, the highest during the months of March and April with 169 and 147 cases respectively. This high incidence also prevailed during January, February, and May with 123, 124, and 120 respectively (Fig. 1). Yale Kneeland and Caroline F. Dawes, in following closely a group of infants in a nursing home, made bacteriologic studies to determine the incidence of carriers.

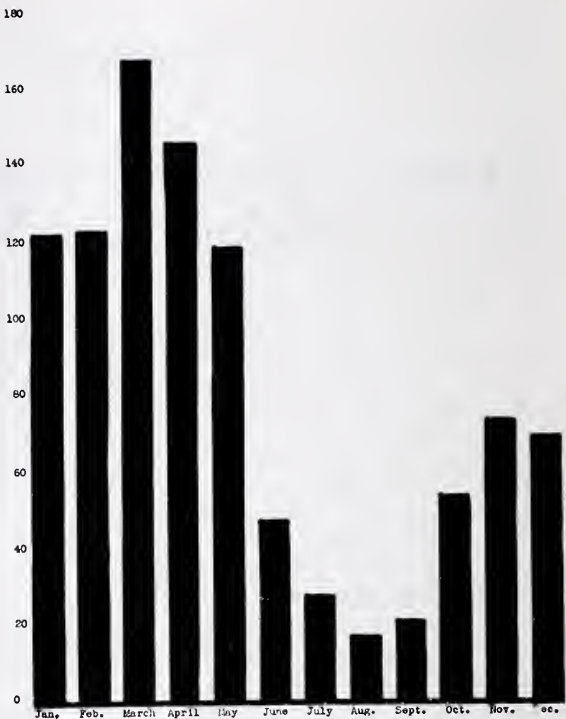


Fig. 1. Monthly incidence in 1000 consecutive cases of lobar and bronchopneumonia in children.

Each year there was a rise in the carrier rate for a single one of the pneumococcus, influenza bacillus, or hemolytic streptococcus. The peak was reached in March of 2 successive winters for the pneumococcus and the influenza bacillus. In a study of the flora of the respiratory tract in hospitalized infants, Arthur P. Long, Charles F. McKhann, and Lucile L. Cheney found that the peak incidence of serious disease of the respiratory tract was in the month of March—only 10 per cent of the patients who were not suffering with bronchitis or pneumonia harbored the pneumococcus, and only 3 per cent the Streptococcus hemolyticus.

Symptomatology

Complete histories were obtained from the attendants accompanying each patient at the time of admission to the hospital. These histories were studied from the standpoint of symptoms prior to hospitalization and have been analyzed separately for lobar and bronchopneumonia. Some informants from whom histories were obtained were friends or relatives of the patient, furnishing only meager details. This fact must be considered in evaluating the data presented in Table III.

In both lobar and bronchopneumonia, there was a definite history of antecedent upper respiratory infection in approximately 50 per cent of the cases. In lobar pneumonia the onset was

TABLE III

SYMPTOMATOLOGY PRIOR TO HOSPITALIZATION IN 1000
CONSECUTIVE CASES OF LOBAR AND BRONCHO-
PNEUMONIA OCCURRING IN CHILDREN

Symptoms	Lobar Pneumonia		Bronchopneumonia	
	Number	Per Cent	Number	Per Cent
Fever	505	94	417	90
Cough	449	84	381	82
Upper respiratory infection	256	48	249	54
Rapid breathing...	121	23	138	30
Pain in chest.....	175	33	17	4
Pain in abdomen..	85	16	22	5
Vomiting	222	41	171	37
Anorexia	110	20	193	42
Diarrhea	4	1	10	2
Chills	65	12	14	3
Delirium	47	9	5	1
Convulsions	21	4	17	4
Aural discharge ..	3	1	18	4
Cyanosis	0	0	5	1

usually more abrupt than in bronchopneumonia, although it was difficult to determine the exact day of onset in a number of instances in each group.

Fever was the most frequently encountered symptom in both types, occurring in 94 per cent of the lobar and 90 per cent of the bronchopneumonia cases. At the time of admission, a higher fever was encountered in lobar pneumonia. Next to fever in frequency was cough, present in 84 and 82 per cent of each of the groups respectively. Definite chills were observed at the onset in 12 per cent of the lobar pneumonia cases as compared with 3 per cent of the bronchopneumonia cases.

Rapid breathing was described in 23 per cent of the cases of lobar pneumonia and in 30 per cent of those of bronchopneumonia. In lobar pneumonia, chest pain and abdominal pain were described in 33 and 16 per cent of the cases respectively, a total of 49 per cent. Such pain was less frequent in bronchopneumonia, being noted in only 9 per cent. This striking difference in the incidence of chest or abdominal pain in lobar as compared with bronchopneumonia may be ascribed to the association of pleurisy with lobar pneumonia, and possibly to the fact that the former disease occurred more frequently in children of the older age group, where pain was more likely to be registered as a definite complaint.

Gastro-intestinal symptoms were described in both groups. Vomiting was common to lobar (41 per cent) as well as bronchopneumonia (37 per cent). Anorexia was much more frequently observed in bronchopneumonia, while diarrhea was not a common symptom in either group.

Acute suppurative otitis media prior to ad-

mission was infrequently noted in both groups, although it was apparently 4 times as common in bronchopneumonia as in lobar pneumonia. In many instances it was determined that the ear infection was a complication of infection of the upper part of the respiratory tract, which antedated the onset of the pneumonia.

During the period of hospitalization, note was made of cyanosis, abdominal distention, meningism, and convulsions. Generally, cyanosis was not present at the time of admission to the hospital. Severe cyanosis necessitating the use of oxygen therapy was observed in a total of 72 cases. Next in order of frequency was marked abdominal distention, which like cyanosis was more frequent in bronchopneumonia. Moderate distention was common in both groups. Meningism was not seen as often as might be expected, being noted 22 times in lobar pneumonia as compared with 3 in bronchopneumonia. Convulsions occurred in one instance of lobar pneumonia and in 5 of bronchopneumonia. In 2 of the cases of bronchopneumonia the convulsions were associated with tetany as demonstrated by lowered blood calcium levels; these patients subsequently died of their infections.

Although 537 cases of lobar pneumonia were studied in this group, it was possible to ascertain the exact day of onset with any degree of accuracy in only 504. In this latter group the average duration of the acute phase of the pneumonia computed from the time of onset to the time temperature reached and remained normal was 5.1 days. In the bronchopneumonia group the average duration in 421 cases was 12.5 days.

Clinical Laboratory Findings

Blood counts, blood cultures, blood chemistry determinations, typing of sputa, and other examinations were not made routinely, but only when indicated for diagnostic purposes. The urine was examined in all of the patients. Complete blood counts were made in 360. The total

TABLE IV

SITE OF LESION IN 537 CASES OF LOBAR PNEUMONIA
IN CHILDREN

Right lower lobe	184
Left lower lobe	180
Right upper lobe	88
Left upper lobe	30
Right lower and middle lobes	13
Left lung, both lobes	13
Right upper and middle lobes	7
Right middle lobe	7
Right lower and left lower lobes	6
Right upper and lower lobes	3
Right upper and left lower lobes	3
Left upper, left lower, and right lower lobes.....	2
Right lung, 3 lobes	1

leukocyte counts varied from 13,000 to 65,000 with 68 to 92 per cent of polymorphonuclear leukocytes. Blood cultures and sputum typings were infrequent, and because of the small number of these examinations it was not possible to classify the present series bacteriologically. Roentgen-ray examinations were made in 284 cases. More frequent use of this aid in diagnosis was not made because it was realized that frequent handling of an acutely ill patient often counteracted the value of the information obtained.

Site of Pneumonia

A summary of the lobes involved in the cases of lobar pneumonia is presented in Table IV. The consolidation occurred most frequently in the lower lobes, appearing with almost equal frequency in the right (184) and left (180) lower lobes. Next in order of frequency were the upper lobes, the right being involved in 88 and the left in 30 cases. Thus the lesions were located in the lower lobes of both lungs in 364 or 68 per cent, and in the upper lobes in 118 or 22 per cent of the cases. The entire left lung was involved in 13 as compared with the involvement of the entire right lung in one case. No attempt was made to classify the bronchopneumonia cases according to location of lung lesions.

Diagnosis

It is of interest to compare the admission diagnosis with that on discharge from the hospital or after postmortem examination. As is shown in Table V, there were 124 errors (12.4 per cent). Infections of the upper part of the respiratory tract, such as pharyngitis, acute bronchitis, influenza, and acute tonsillitis, ac-

TABLE V

ERRORS IN ADMISSION DIAGNOSIS OCCURRING IN 1000 CASES OF PNEUMONIA IN CHILDREN	
<i>Admission Diagnosis</i>	<i>Cases</i>
Upper respiratory infection	74
Meningitis	15
Empyema	6
Pyelitis	4
Enteritis	4
Tuberculosis	4
Appendicitis	4
Typhoid fever	3
Gastro-intestinal upset	2
Tetany	2
Poliomyelitis	1
Lung abscess	1
Pertussis	1
Pericarditis	1
Scurvy	1
Rheumatic fever	1
Total errors in admission diagnosis	124

counted for 74 of these errors. Possibly because of the presence of meningism, an admission diagnosis of meningitis was erroneously made in 15. Gastro-intestinal disorders such as enteritis, appendicitis, and gastro-intestinal upsets account for an additional 13 errors. Although it is believed that pneumonia in children is often confused with acute appendicitis, this error occurred only 4 times in the present series. Fortunately, in each instance the diagnosis was corrected before these patients were subjected to unnecessary surgical procedures.

Complications

Otitis Media.—As is shown in Table VIII, acute suppurative otitis media was the complication most frequently encountered in this group. Cultural studies of these infections were not made. Hence no significance can be attached to any correlation of the relationship of otitis media to pneumonia. In 21 cases aural discharge from one or both ears was present at the time of admission to the hospital, openings having occurred either spontaneously or been made by the attending physician prior to hospitalization. In 17 cases spontaneous perforation was observed in the hospital. Myringotomy was done and aural discharge obtained in an additional 261 cases. Thus acute suppurative otitis media developed in a total of 278 or 27.8 per cent of the cases of lobar and bronchopneumonia.

TABLE VI

OCCURRENCE OF EAR COMPLICATIONS IN 1000 CASES OF PNEUMONIA IN CHILDREN UNDER AGE 12				
<i>Lobar Pneumonia</i> 537 Cases		<i>Bronchopneumonia</i> 463 Cases		
<i>Under</i> 2 Years	<i>Over</i> 2 Years	<i>Under</i> 2 Years	<i>Over</i> 2 Years	
82 Cases	455 Cases	319 Cases	144 Cases	
Ears draining on admission	3	0	12	6
Ears perforated spontaneously .	3	4	10	0
Ears opened in hospital	27	67	131	36
Mastoiditis	0	0	1	0
Total in hospital	30	71	142	36
Per cent	37	16	45	25
Total per cent otitis media .	19		38	

The incidence of otitis media in bronchopneumonia was 38 per cent; that in lobar pneumonia 18 per cent (Table VI). Otitis media was, therefore, twice as frequent in the former as in the latter group. The incidence of otitis media under age 2 was greater than between the ages of 2 and 12 years in both types of pneumonia,

TABLE VII

ANALYSIS OF 34 CASES OF EMPYEMA OCCURRING IN 1000 CASES OF PNEUMONIA IN CHILDREN

	No. of Cases	Deaths	Location		None	Thora- centesis	Type of Treatment		
			Right	Left			Closed Drainage	Closed followed by Open Drainage	Open Drainage
Cases of									
Lobar Pneumonia									
Under 2 years	2	0	1	1	0	0	0	1	1
Over 2 years	29	1	11	18	0	8	6	3	12
Cases of									
Bronchopneumonia									
Under 2 years	0	0	0	0	0	0	0	0	0
Over 2 years	3	1	0	3	2	1	0	0	0
Total	34	2	12	22	2	9	6	4	13

being 37 and 44 per cent respectively in lobar and bronchopneumonia in the younger group, as compared with 18 and 25 per cent in the older age group. It was possible to determine with reasonable accuracy the duration of aural discharge in 85 cases of lobar and 145 cases of bronchopneumonia. In the former group the ears were opened from 1 to 10 days after admission (average 3.6 days) and drainage persisted from 2 to 14 days (average 8.7 days) after myringotomy. In the latter group, paracentesis was performed from 1 to 16 days after admission (average 5.3 days), and drainage persisted from 2 to 28 days (average 10.8 days). In spite of the high incidence of otitis media, only one instance of surgical mastoiditis was encountered in the entire group.

Empyema.—Empyema occurred in 34 (3.4 per cent) of the 1000 cases studied (Table VII). This does not include 14 cases of empyema which developed during the course of a pneumonia treated at home and admitted directly to the surgical wards for treatment. In one case each of lobar pneumonia and bronchopneumonia, death occurred before empyema was discovered. Discounting these 2 cases, there were no mortalities in the remaining 32 cases of empyema. Only 2 cases of empyema occurred under age 2. Thirty-one cases of empyema occurred in lobar pneumonia as compared with 3 in bronchopneumonia, a ratio of 10.3 to 1. The empyema was on the right side in 12 instances and on the left in 22. Unfortunately, pneumococcus typing was done in only 13, but in each of these it was Type I.

Empyema was detected as early as the fourth day in one case, but ordinarily was not picked up until the eighth to the twelfth day. Reference to Table VII shows that 3 cases received no treatment of any kind. In 2 of these the empyema was not discovered until after death, and in the third, diagnosed by roentgen-ray examination, spontaneous absorption occurred. In

8 additional cases, spontaneous recovery occurred after one or more thoracenteses were done. Surgical intervention was necessary in the remaining 23 cases; in 6 recovery followed closed drainage, in 13 recovery followed open drainage, and in 4 closed drainage instituted as the first therapeutic procedure was found inadequate and had to be followed by open drainage. All recovered except the 2 cases in which empyema was discovered post mortem.

Other Suppurative Complications.—As shown in Table VIII, other complications were uncommon. Two cases of meningitis, one due to the Type VI pneumococcus and the other due to the Streptococcus hemolyticus, terminated fatally. Lung abscess occurred in 2 patients, one in the lower lobe of the right lung in a bronchopneumonia and the other in the lower lobe of the left lung in a lobar pneumonia. Both recovered without special therapy, as shown by repeated roentgen examinations. Several instances of abscesses of the scalp and buttocks as well as furunculosis were encountered. These, however, were probably local infections rather than part of a blood stream infection. An abscess of the thigh due to the Type IV pneumococcus occurred in a bronchopneumonia showing a positive blood culture.

TABLE VIII

COMPLICATIONS OCCURRING IN 1000 CASES OF PNEUMONIA IN CHILDREN

Acute suppurative otitis media	279
Thoracic empyema	34
Furunculosis and abscess of scalp	6
Abscess of buttocks	2
Generalized purpura	3
Blockage of main bronchus with atelectasis	2
Abscess of lung	2
Pneumococcic meningitis, Type VI	1
Generalized furunculosis	1
Pneumococcic abscess of thigh, Type IV	1
Abscess of epididymis	1
Abscess of cervical glands	1
Streptococcic meningitis	1
Acute peritonitis (B. coli)	1

Nonsuppurative Complications.—Three cases of generalized secondary purpura hemorrhagica were noted, one of which terminated fatally. Atelectasis due to obstruction of the left main bronchus by a mucus plug occurred in one each of lobar and bronchopneumonia. The former required 4 bronchoscopic treatments, while the latter recovered spontaneously after the patient coughed up a mucus plug. Nephritis was not encountered in a single instance, although occasionally a trace of albumin and a few casts were found in the urine.

Mortality

A study of the mortality occurring in the entire group of 1000 cases reveals interesting data. As far as mortality is concerned, 2 types of cases were analyzed—those in which death occurred within 24 hours of admission to hos-

near death at the time of admission as to afford no opportunity for adequate therapy of any kind. It was therefore felt that such deaths should not be included in the hospital mortality rate. The data relating to this small group are presented for their general value and interest, but excluded from the final estimation of mortality rates (Table IX).

In the 537 cases of lobar pneumonia there were only 7 deaths or 1.3 per cent. No deaths were recorded in the 82 cases of lobar pneumonia under age 2. The mortality in the present study is therefore confined entirely to those between the ages of 2 and 12 years and is 1.54 per cent for this age group. A much higher mortality rate was observed in bronchopneumonia. Seventy deaths or 21.9 per cent were recorded in the 319 cases under age 2, and 11 or 7.6 per cent in the 144 over age 2. The average total mortality for the bronchopneumonia group was 17.5 per cent. In the 18 "coroner's cases," 17 deaths were from bronchopneumonia and 1 from lobar pneumonia. Sixteen of these were under age 2. In the bronchopneumonia group, there were 49 deaths in the colored as compared with 32 in the white race. Forty-seven of the deaths occurred in males and 41 in females.

Table X shows the distribution of the deaths according to age. As has already been stated, 70 deaths from bronchopneumonia occurred under age 2 and 11 deaths between the ages of 2 and 12 years. However, if the cases under 2 are broken up into 3-month periods, 28 of these deaths occurred during the first 6 months of life as compared with 32 in the remaining 18 months of this age period. This strikingly demonstrates the high mortality from bronchopneumonia during infancy.

The presence of such constitutional or debilitating conditions as rickets, congenital syphilis, congenital heart disease, prematurity, and tetany was noted in 19 of the 88 deaths from pneumonia (Table XI). No claim as to the etiologic relationship of these factors in the mortality rate is made; these data are presented for

TABLE IX

ANALYSIS OF MORTALITY OCCURRING IN 1000 CONSECUTIVE CASES OF PNEUMONIA IN CHILDREN

	Lobar Pneumonia		Bronchopneumonia	
	537 Cases		463 Cases	
	Under	Over	Under	Over
	2 Years	2 Years	2 Years	2 Years
	82 Cases	455 Cases	185 Cases	144 Cases
Male	0	5	37	5
White	0	5	17	2
Colored	0	0	20	3
Female	0	2	33	6
White	0	2	12	1
Colored	0	0	21	5
Total mortality	0	7	70	11
Per cent	0	1.54	21.9	7.6
Total per cent .		1.3		17.49

pital ("coroner's cases") and those in which death occurred more than 24 hours after admission. As shown in Table IX, a total of 88 deaths (8.8 per cent) were recorded in the 1000 cases remaining in the hospital longer than 24 hours. In addition, there were 18 coroner's deaths, making a total of 106 deaths in 1018 admissions (10.4 per cent). The coroner's cases were so

TABLE X

DISTRIBUTION OF DEATHS OCCURRING IN 1000 CASES OF PNEUMONIA ACCORDING TO AGE

(A Similar Distribution of 18 Deaths Occurring within 24 Hours After Admission Is Also Given, Although These Latter Figures Are Not Included in the Mortality Rate Determinations)

Age	Months							Years 2-12
	0-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24
<i>Patients dying over 24 hours after admission</i>								
Lobar pneumonia	0	0	0	0	0	0	0	7
Bronchopneumonia	16	22	10	12	2	3	3	2
<i>Patients dying within 24 hours after admission (coroner's cases)</i>								
Lobar pneumonia	0	0	0	1	0	0	0	0
Bronchopneumonia	5	5	2	2	0	0	1	0

TABLE XI

IMPORTANT CONSTITUTIONAL CONDITIONS OCCURRING IN
19 OF THE 88 DEATHS FROM PNEUMONIA IN
CHILDREN

<i>Factor</i>	<i>Cases</i>
Rickets	5
Congenital syphilis	5
Rickets and congenital syphilis	1
Congenital heart disease	3
Prematurity	3
Tetany	2

whatever general interest they may have. Malnutrition was mentioned in a number of instances, but it has been omitted from this tabulation because of the obvious difficulty in ascertaining its degree or importance. The relation of contagious disease to the etiology of pneumonia could not be determined because these cases were sent directly to the Municipal Hospital for Contagious Diseases. In this investigation there were no instances of pneumonia following pertussis and only 2 of bronchopneumonia following measles.

Necropsies were performed in 56 or 64 per cent of the 88 deaths observed in this study. Only 8 (44 per cent) of the "coroner's cases" were necropsied.

Treatment

The cases in the present study were selected because specific therapy was not used. Those receiving serum, sulfanilamide, or sulfapyridine were omitted. The number treated with serum was small, totaling not more than 10 or 12, because serotherapy was infrequently used in the pediatric services of the Philadelphia General Hospital. Chemotherapy was not used until the last few months of 1938, so that only a few had received either sulfanilamide or sulfapyridine when this survey was undertaken. These relatively small numbers do not materially alter the data in this presentation.

Essentially, treatment consisted in providing good nursing care with a minimum amount of disturbance to the patient, maintenance of fluid intake, the prevention of cross-infection by means of strict isolation precautions, and blood transfusions and oxygen when indicated. Drugs, enemas, tepid sponge baths, etc., were not used routinely but rather for the relief of such special symptoms as severe cough, restlessness, delirium, abdominal distention, and maintained high fever.

Discussion

An analysis of pneumonia based on a group of cases occurring within a single year may be criticized justifiably on the basis that factors such as virulence, resistance of the host, com-

plications, and mortality vary from year to year. To obviate these objections, such a study must be large enough to yield numerically reliable information, and extend over a period of time long enough to overcome the objection that the virulence of the infection or resistance of the host varies from year to year. The present investigation covers 1000 cases and extends over slightly less than 6 years. Objection may still be offered on the grounds that this period of time insufficiently covers all possibility of yearly variation. Reference to Table I reveals that approximately the same number of admissions were encountered each year covered by the survey, while the number of cases of pneumonia varied between 130 and 233 per year. The mortality varied from 11 to 24 per year except in 1934, when there were 24 deaths out of 154 cases treated for pneumonia. Even with this variation in the number of cases of pneumonia and in the number of deaths, the mortality rate was the same during 1933, 1935, and 1936, while a striking increase, from 7 per cent to 16 per cent, was shown in 1934 (Table I). This survey, therefore, includes one year (1938) in which the morbidity was high, as well as one (1934) in which either the virulence of the organism was high or the resistance of the patient was low.

As all other observers have reported, the complications most frequently encountered were acute suppurative otitis media and thoracic empyema.

In the present study, otitis media occurred in 19 per cent of the cases of lobar pneumonia and in 38 per cent of those of bronchopneumonia. Age is an important factor as shown by the high frequency of otitis media in children under age 2. Under this age, 37 per cent of the cases of lobar pneumonia and 45 per cent of those of bronchopneumonia developed otitis; in those over age 2, only 16 per cent of the former and 25 per cent of the latter developed it. James D. Trask records an incidence of 35 per cent in a series of 261 cases of lobar pneumonia and 45 per cent in 150 of bronchopneumonia. Jesse G. M. Bullowa states that, in pneumonia of children, otitis media may occur as a complication in 20 per cent. Charles J. Leslie, in a study of 511 cases of pneumonia treated without specific therapy, found an incidence of 32 per cent of otitis media and 8.6 per cent of operative mastoiditis. Horace L. Hodes et al. reported 3 instances of otitis media in a group of 33 cases of primary pneumonia treated with sulfapyridine, 2 of which were present when the patients were admitted to the hospital.

Empyema occurred in 34 (3.4 per cent) of the present series, compared with an incidence of 10 to 12 per cent noted by other observers. Only 2 deaths, a mortality of 5.9 per cent, occurred, and in both of these the empyema was discovered post mortem before therapy was instituted. Fourteen of these 34 cases were typed, and in each the pneumococcus Type I was found responsible.

Both G. B. Lyon and Trask report on the frequency of the Type I pneumococcus in empyema. Trask reports the following incidence of empyema in 261 cases of lobar pneumonia: Type I, 23 per cent; Type III, 4 per cent; and miscellaneous types, 6 per cent. He points out that this includes all patients admitted and is high because his material was selected on the basis of severity. In 150 cases of bronchopneumonia Trask reported 2 cases. He also found that empyema developed in 60 per cent of the children who had a positive blood culture for the Type I pneumococcus and in only 10 per cent of those with negative blood cultures.

In the 33 cases of sulfapyridine-treated pneumonia reported by Hodes et al., there were no instances of empyema. Bullowa found 58 cases of empyema in 1712 cases of primary pneumonia, an incidence of 3.3 per cent; there were 11 deaths or a mortality of 19 per cent. Of these 1712 cases of pneumonia, he lists 923 as pneumococcic and 789 as nonpneumococcic. In the former (923), empyema occurred 46 times, or an incidence of 5 per cent, and these showed a mortality of 17.4 per cent. In the latter (789), empyema occurred 12 times, or an incidence of 1.5 per cent. Of these, 3 died, or a mortality of 25 per cent. Empyema occurred in 10 per cent of Leslie's cases. John P. Scott reported on 58 cases of pneumonia treated with sulfapyridine with none developing empyema, and none of 100 cases similarly treated by Henry S. Christian et al. showed this complication.

The mortality encountered in this study is strikingly low, being 1.3 per cent in 537 cases of lobar pneumonia and 17.49 per cent in 463 cases of bronchopneumonia. These figures are based on the 88 patients who died later than 24 hours after admission to the hospital. If one includes the 18 "coroner's cases" (1 of lobar pneumonia and 17 of bronchopneumonia), the mortality becomes 1.5 per cent in lobar pneumonia and 20.4 per cent in bronchopneumonia. The highest mortality, of course, was encountered in the cases of bronchopneumonia under age 2. No deaths occurred in the 82 cases of lobar pneumonia under age 2. It may be argued that some of the cases under age 2 that were diagnosed

lobar pneumonia were actually confluent bronchopneumonia. Granting this, it would only add to the total number of cases of bronchopneumonia without changing the mortality rate.

In a group of 1000 cases of primary pneumonia consisting of 66.8 per cent lobar and 33.2 per cent bronchopneumonia, Bullowa found that in lobar pneumonia the mortality was 18.6 per cent under age 2, and over age 2 it was 5.7 per cent; in bronchopneumonia under age 2 the mortality was 35.5 per cent. Trask reported a total mortality of 3 per cent in lobar pneumonia and 29 per cent in bronchopneumonia. Joseph Rose et al. observed a mortality of 11.1 per cent in 253 cases of lobar pneumonia. In a group of 1482 hospital cases of lobar pneumonia Holt noted a mortality of 4 per cent. In a similar group of 346 cases of "primary lobular" pneumonia the mortality was 42.5 per cent. In private practice Holt found the mortality range for "primary lobular pneumonia" to be between 10 and 20 per cent. In Leslie's group the mortality for 173 lobar cases was 14 per cent and for 338 bronchopneumonia cases 40 per cent.

The low mortality rate in the present series of cases of lobar pneumonia treated without specific therapy makes one wonder how much further improvement can be obtained with either type-specific serum or sulfapyridine in the management of pneumonia in children. Many of the patients observed were extremely ill; others were admitted to the hospital in a critical condition. It seems, therefore, that all cases were well assorted as to severity, age, and year of occurrence. With all of these variables and with the use of nonspecific therapy the mortality in the lobar pneumonia group was still noteworthy. In the bronchopneumonia series, however, the mortality was much higher, particularly in the younger age group. Approximately two-thirds of the recorded deaths occurred under age 1. Observers who have studied the bacteriology of primary bronchopneumonia have demonstrated that the pneumococcus is the most frequently encountered organism. It is hoped that sulfapyridine or allied chemicals will be valuable in reducing this high mortality. At the present time such a study is being conducted in the Pediatric Department of the Philadelphia General Hospital, and the results of this investigation will appear in a future communication.

Summary

A series of 1000 cases of pneumonia in children under age 12 treated without specific therapy of any kind is reported. In this group there were 563 cases of lobar pneumonia and 437 of bronchopneumonia.

Data relating to morbidity, age, sex, race, season, symptoms, laboratory studies, and diagnosis are presented.

Acute suppurative otitis media and thoracic empyema were the most frequently encountered complications, the former occurring in 27.9 per cent and the latter in 3.4 per cent.

The mortality rate in lobar pneumonia was 1.3 per cent, while that in bronchopneumonia was 17.49 per cent. If the 18 so-called "coroner's cases" consisting of 1 lobar and 17 cases of bronchopneumonia are included, then the mortality rates become 1.5 and 20.4 per cent respectively, or a total mortality of 10.4 per cent in 1018 admissions.

Because of the increasing use of chemotherapy in the treatment of pneumonia in children it seemed definitely worth while to collect data relating to the duration, mortality, and incidence of complications derived from a large control group of cases receiving no specific therapy whatsoever.

Consequently, this paper represents the analysis of the records of 1000 cases of pneumonia in infants, and in children under age 12, admitted to the Philadelphia General Hospital between Mar. 1, 1933, and Dec. 31, 1938, a period of nearly 6 years. None of the cases received any type of specific therapy. With one possible exception they were cases of primary pneumonia in that there was no preceding illness such as pertussis.

The cases were divided into lobar and bronchopneumonia since our records are thus filed. The diagnosis for such a classification was made on a clinical basis in the majority of cases. However, roentgen-ray studies were made in 284 patients. The type of organism was not determined often enough to be worth reporting in this group.

ABSTRACT OF DISCUSSION

JOHN W. HOLMES (Philadelphia): There is an old saying that "Time makes ancient good uncouth." I wonder if that will apply to pneumonia in children. We have studied these 1000 consecutive cases, which cover a period of 6 years practically, and are rather surprised at the low mortality.

Dr. Jones has shown that in the lobar pneumonia variety the mortality is almost unbelievably low. It is only 1.3 per cent, while that of the bronchopneumonia variety is 17.5 per cent, which is quite high. He spoke about the so-called "coroner's cases"; these were 18 patients admitted to the hospital who died within 24

hours. One was a case of lobar pneumonia and the other 17 were bronchopneumonia. Many of these cases were moribund, and in most of them there was no opportunity for therapy to be instituted.

If these 18 cases are included, the mortality for lobar pneumonia would be changed to 1.5 per cent, which would give an overall mortality of 10.5 per cent. With a mortality like that in lobar pneumonia, it is obvious that with any specific therapy one could hardly expect a further reduction of a mortality that has been so low in that type of pneumonia. Of course, as far as complications go, and as far as the duration of the disease is concerned, that is, the number of days of the disease, it is quite conceivable that they could be reduced with specific therapy.

Dr. Jones has shown in slides that, of all the deaths in the entire series, more than two-thirds occurred in children under one year of age, and every one of those children were of the bronchopneumonia type. Apparently, then, if we are going to have successful specific therapy, it should be with bronchopneumonia rather than with lobar pneumonia.

Since these 1000 consecutive cases were distributed over a period of 6 years, certainly that fact should give a fair indication of the variation in the virulence of the infection, and at the same time show definitely the resistance of the host.

These were cases which were taken not only from one service but from 6 services in the hospital.

In regard to the complications, otitis media was the most frequent, and it occurred twice as often in the bronchopneumonia cases as it did in the lobar pneumonia cases. Furthermore, most of the cases occurred in children under age 2 rather than in the group between 2 and 12 years.

As to otitis media in the hospital, there can be no doubt but what there is unnecessary interference many times with the myringotomy knife.

The number of empyemas was very small, only 4 per cent. Most authorities or observers figure 10 to 12 per cent. The distribution of empyema was what you would expect—31 in the lobar cases and 3 in the bronchopneumonia cases. There were only 2 deaths, and these were discovered post mortem. They were not diagnosed at the time.

Now, if these 1000 cases, which were treated without any specific therapy, are used as control cases, they should provide a good yardstick to measure the effectiveness of the new drugs (sulfanilamide and sulfapyridine) which we are now using in the Philadelphia General Hospital in the treatment of pneumonia in children under age 12.

DR. JONES (in closing): I should just like to emphasize what Dr. Holmes has said. We caution all the interns about opening ears, as we were definitely impressed with the fact that the patients who had their ears opened did not improve any quicker than those whose ears ruptured spontaneously.

I think the figures relating to mortality are worth emphasizing, also the occurrence of only one case of surgical mastoiditis.



Round-Table Conference on Recent Advances in Chemotherapy

The Round-Table Conference on Recent Advances in Chemotherapy was held Oct. 3, 1940, during the Ninetieth Annual Session of The Medical Society of the State of Pennsylvania at Philadelphia. Dr. Henry K. Mohler, Philadelphia, chairman, presided. He was assisted by Dr. Wendell J. Stainsby, Danville, and Drs. Walter I. Lillie, Harrison F. Flippin, Edward H. Campbell, Percy S. Pelouze, and John S. Lockwood, all of Philadelphia.

THE CHAIRMAN: During the past year increasing progress has been made in the use of chemotherapeutic agents. We have learned, and will continue to learn as our experience grows, the limitations as well as the usefulness of these agents.

I know of no better way of promoting discussion and exchanging experiences than by round-table conferences. If anyone has a question to ask, I hope that the men who are scheduled to participate in this round table will volunteer to answer. At the same time, there is no objection to questions being answered by physicians who are not named on the program.

Although the use of chemotherapeutic agents has been very widely discussed, there are many other diseases in which one or another group of workers has found that procedures, if changed somewhat, have been more beneficial than those used previously.

I will call upon Dr. Lillie to discuss the use of some of these drugs in diseases of the eye.

DR. LILLIE: Chemotherapy in ocular diseases with sulfanilamide, sulfapyridine, or sulfathiazole has recently been, perhaps, the most miraculous thing from a therapeutic standpoint.

Trachoma is one of the great causes of blindness in the entire world, more so in other countries than here, although when immigrants are thoroughly examined as a routine procedure, a number do slip through and become a visual problem in the United States.

Sulfanilamide was first used on the American Indian in the Northwest, and the results were excellent. This treatment of trachoma relieved the patient of local pain and discomfort. I do not know the actual circumstances under which this was first used, but in a week or 10 days even the most persistent phases of the disease seemed to clear up. Our experiences have been the same, and we really see acute trachoma improve in 2 weeks.

The usual course of treatment with sulfanilamide is to give the individual a third of his body weight in grains per day for one week, and the second week a fourth of the individual's body weight in grains. Usually, on the fourth or fifth day the photophobia, lacrimation, and pain have disappeared; the mechanical ptosis usually present is minimized; patients are usually able to open their lids, and if the cornea has not

been involved to too great an extent from previous episodes, their vision returns very rapidly and a clinical cure is established.

Interestingly enough, Dr. Phillips Thygeson, of the Presbyterian unit in New York, has found in his experimentation on monkeys that after sulfanilamide has been used on previously infected trachomatous monkeys he is unable to infect them with the virus.

THE CHAIRMAN: Dr. Lillie's very clear discussion should provoke questions or comments on this subject. I take it that Dr. Lillie considers the use of these drugs in trachoma is an outstanding achievement in the treatment of diseases of the eye. What about their use in the various types of conjunctivitis and what about gonorrheal ophthalmia?

DR. LILLIE: I mentioned trachoma because that was really the first form of conjunctivitis in which it was used with remarkable results.

Of course, gonorrheal ophthalmia in the adult and ophthalmia neonatorum in the infant have shown the same results with the use of this drug. This is the experience of practically every institution that sees any amount of ophthalmia neonatorum.

Dr. Carroll R. Mullen, on Tuesday afternoon in the Section on Eye, Ear, Nose and Throat Diseases, gave a report of the experiences at the Philadelphia General Hospital in the 4 ophthalmology services, stating that the use of sulfanilamide has changed the hospitalization of a patient with gonorrheal ophthalmia from 3 to 6 weeks to 2, 3, or 5 days. That is the average stay in the hospital following the use of sulfanilamide, and 3 of those days of waiting are for negative smears.

At the present time, although it is as yet not reported, sulfathiazole is being used instead of sulfanilamide, and they believe it is producing even better results clinically.

I have had no personal experience with sulfathiazole in ophthalmia neonatorum, but they feel (and this is off the record and as yet unpublished) that it can be substituted for sulfanilamide with perhaps even better results.

For the information of those of you who are perhaps not familiar with it, they have instituted a program of almost continuous irrigation of the eyes with an .8 solution of sulfanilamide, which is the saturated solution in sodium chloride. Ground-up sulfanilamide is mixed with milk and fed to these infants.

The results obtained in infants treated with sulfanilamide have been even better perhaps than those obtained in adults. As a matter of fact, there are less toxic signs in infants than in adults.

Sulfapyridine has been used for pneumococcal conjunctivitis. Personally, I have had no clinical experience with it, so that I am not able to state whether that will act as well in pneumococcal conjunctivitis as does sulfanilamide in trachoma and gonorrheal conjunctivitis.

DR. CAMPBELL: I should like to ask if there is any beneficial effect from the local application to the conjunctiva of any of these products.

DR. LILLIE: The feeling is that they have no local reaction on the conjunctiva, although it has been shown that they are absorbed through the cornea and sulfanilamide can be recovered from the aqueous humor in a very few minutes.

Probably, in continuous or almost continuous irrigation to the conjunctival cul-de-sac, sulfanilamide is not really playing any great part. We know that in comparable groups continuous boric acid irrigation was used; by keeping the cul-de-sac absolutely clean of accumulations, so there would be no breaking down of the epithelial layer or any irritation to it, severe complications of the cornea were prevented.

THE CHAIRMAN: Dr. Campbell, someone wishes to know how you use sulfanilamide, sulfapyridine, and sulfathiazole in the diseases of the throat. Also, what are the indications and have there been any bad effects?

DR. CAMPBELL: It has been our impression from the rather widespread use of these compounds in nose, throat, and ear conditions that in middle ear and mastoid infections the results are good when the drugs are used early, but poor when started late. That is just the general impression, and subject to modification in various types of infection.

Cultures of the ear are very important before the use of the drugs is started. I am not sure that the indiscriminate use of these drugs is justifiable when the patient has pain in the ear without any pus formation, in perhaps the mild catarrhal conditions. There is a difference of opinion on that, because there is a possibility of controlling these infections before any pus ever appears by giving the drug in the early stages, although we cannot know, of course, what organism is causing the condition. Therefore, if it is possible to obtain a culture of the ear before the drug is given, it is important.

Sulfanilamide in otolaryngologic cases is used for the beta hemolytic streptococcus infection and sulfapyridine or sulfathiazole is used for pneumococcus, staphylococcus, Streptococcus viridans, Friedländer's bacillus, and influenza bacillus infection.

The doses of all these drugs, as far as we are concerned, are approximately the same, and the dosage is as follows: In adults, three-fourths of a grain per pound per day for 3 days, and one-half grain thereafter, continuing the drug indefinitely according to the reaction, the toxic effect, the virulence of the infection, and the clinical picture that develops. In the more severe infections, this amount of drug may be increased or possibly doubled. The drug may be given by hypodermoclysis in .8 per cent Ringer's or saline solution, also by bowel.

In children, a larger dose is given, usually from 1 to 1½ grains per pound per day from 3 to 10 days, starting with one-half the 24-hour dose at a single dose. That dosage is given in mild cases, and from 10 to 20 days in severe cases.

Doses are usually reduced gradually after 2 or 3 days, and all these drugs are used with an equal amount of bicarbonate of soda.

In most of these conditions the results should be definite in 3 to 7 days. The red and white cell count and hemoglobin estimation should be taken every second day at least, and when giving large doses, every day.

At any time that the clinical picture becomes confused the drug should be discontinued at least for a day or so until there has been opportunity to observe the clinical picture more closely. The drug should be stopped for a few days if fever develops to observe whether or not the drug has any influence on the temperature.

Also—and this applies particularly to ear and mastoid infections—we believe the patient should be observed for at least a week or more after discontinuing any prolonged administration of the drug, because it has been found that pockets of infection may become active again.

If an infection is seen late, the drug should be tried for a time at least, because the most surprising effects are often noted. The earlier the drug is started in these ear and mastoid infections, the more prompt and efficient will be the result. On the other hand, when starting the drug late, the usual observation is that little or no remarkable effect is noted in mastoid infections.

We believe that any time during the administration of the drug, if the classic indications for mastoidectomy are present, the operation should be performed, and thereafter the drug either continued or, if it is felt that the condition has been completely eradicated, the drug may be stopped. Of course, the drug should be continued if complications develop unless severe toxic signs appear.

All definite foci of active disease should be removed or drained even though the drug has apparently controlled it. That means, in the case of a mastoid infection, that if the drug has been given through the course of a mastoid disease and in spite of it swelling has appeared over the mastoid, showing a necrosis of bone and the development of an abscess, even though the symptoms have subsided and the patient is clinically well, the patient should have a thorough mastoidectomy performed.

This also applies more particularly in the brain complications. In the treatment of a brain abscess, one should not depend upon the use of sulfanilamide alone, but the local definite foci of active disease should be eliminated also.

A great deal of stress is put on the modification of symptoms by the use of the drug and the drug simulating certain signs of the disease. One of the simulated symptoms which may occur is fever. In administering the drug, we find at times that it will cause fever in a patient which closely simulates a septic condition. Nausea and vomiting may simulate the pressure of intracranial complications. Cyanosis and depression may simulate a severe sepsis from the disease. Headache and neuritic pains which develop after administration of the drug closely simulate meningeal complications. Lastly, depression and confusion simulate symptoms of encephalitic complications.

On the other hand, there is one suppressed symptom, the antipyretic effect. We have noticed it in lateral sinus thrombosis particularly where the drug has been given; it may cause an antipyretic effect, so the chill and high fever ordinarily occurring during a shower of organisms into the blood stream may not develop clinically due to the fact that the drug keeps the temperature down.

In operations on mastoids we have noticed that when the drug is given early, areas of nearly normal bone may alternate with zones where the bone is soft. It has been reported a number of times that the mastoid may show areas where the bone is well broken down

and other places where the bone has not been affected, as if the drug were having a favorable influence on part of the disease and not on the entire mastoid.

On the other hand, in other cases there has been extensive destruction without pus being found.

Another interesting thing brought out by Dr. Frederick M. Law, of New York, not long ago is the roentgen-ray feature of the mastoid after the use of sulfanilamide. He says that after the use of sulfanilamide the roentgen-ray appearance of the mastoid indicates the condition is not as severe as the clinical evidence suggests. He believes this is due to the fact that the cells are more translucent to the roentgen ray from the effect of the sulfanilamide on those cells. He also believes that the roentgenologist should be notified when the drug is given before he gives his opinion on the roentgenogram.

If the drug is given before osseous changes have taken place, resolution is apt to occur. This again is only an opinion. If the drug is given after osseous changes have started, the process is apt to continue in spite of intensive administration of the drug.

Just another word or two about postoperative chemotherapy. It can be given after the operation if the case comes to operation. The drug can be entirely discontinued if the condition has been eradicated. On the other hand, it can be given if no toxic symptoms develop. If it is given before operation, it should be stopped if it is felt that the mastoid infection has been completely eliminated. If meningitis develops, the drug should be continued and all adjuncts used, such as serum and blood transfusions. It should be used in large doses in sinus thrombosis.

In petrositis the drug should be thoroughly tried before operation. Petrositis is a condition that is very often followed or accompanied by meningitis, and if operation can be done easily, the proper procedure would be to operate promptly. But it is an intricate and delicate operation, and we believe, in petrositis and in labyrinthitis, the drug should be continued energetically and operation deferred until danger symptoms occur.

Abscess of the brain requires both the drug and operation.

I should like to say something about the toxic symptoms, but there are others here who can discuss that much better than I can.

One word about the use of these drugs in nasal and sinus infections. I know of no statistics which are properly controlled and properly evaluated that show any great result or beneficial effect in sinus infections. On the other hand, we have some impression from clinical use of these drugs that they do have some helpful effect.

We believe, again, that cultures should precede the administration of the drugs, and as far as possible the drug most specific for the organism should be given. The dosage should be moderate unless severe infection is present. Do not give the tremendous doses that are often given for bone infections, for membrane infection of the sinuses requires somewhat milder doses of the drugs. If no favorable effects are obtained in 7 to 10 days, the drug should be stopped in sinusitis; it should also be discontinued if any toxic signs are observed.

One word about the use of the drug in tonsillitis and throat infections. It is very common for the general practitioner and also the otolaryngologist to give sulfanilamide in streptococcic sore throat and tonsillitis, which is usually a streptococcic infection. We must

consider tonsillitis as a 4-day or 5-day disease which subsides usually in that time without any chemotherapeutic treatment. Therefore, we must not give credit to sulfanilamide for the prompt subsidence of a case of tonsillitis where the drug is started on the second day and the patient gets well on the fourth.

Chemotherapy has been used in the Children's Hospital during the past year in **acute laryngitis cases**. We have used sulfathiazole almost exclusively, but have seen no great results in the use of it for acute laryngitis in children.

THE CHAIRMAN: Dr. Campbell, do you use drugs in patients who are ambulatory, or only in patients confined to bed?

DR. CAMPBELL: Preferably in those confined to bed. I mean, if we see a patient in the home, we would insist on his remaining in bed. We much prefer that the patient be in the hospital where he can have the cultures taken and the blood tested every day or two.

THE CHAIRMAN: You would not prescribe these drugs for a patient with an ordinary cold without knowing the etiology?

DR. CAMPBELL: No, I would certainly want a culture first.

THE CHAIRMAN: It is very important that other remedial measures which are usually applied be continued when you use sulfanilamide?

DR. CAMPBELL: Right.

THE CHAIRMAN: Dr. Campbell, do you have any preference in the use of the 3 drugs (sulfanilamide, sulfapyridine, and sulfathiazole), or do you feel that they can be used interchangeably?

DR. CAMPBELL: We find that in purely streptococcic infections, *Streptococcus hemolyticus*, it is best to use sulfanilamide. In other infections, with any other organism, we use sulfathiazole. That certainly would be my own thought, and in general I believe it is the opinion of the otolaryngologists.

DR. STAINSBY: What percentage of blood concentration gives the best results, or what percentage would be considered dangerous or useless with sulfanilamide?

DR. R. VERA ZABARKES (Philadelphia): You said that tonsillitis is a disease of 4 or 5 days. If you wait for the culture, you have to wait a couple of days, so what good is the sulfanilamide?

DR. FLIPPIN: In reply to the question regarding blood levels with sulfanilamide, we believe that a blood level of 10 milligrams per cent of sulfanilamide is desirable in severe infections. I daresay these infections of the nose and throat which Dr. Campbell has described, aside from meningitis or mastoiditis, will not require over a level of 5 per cent.

As far as tonsillitis is concerned, I see no reason for waiting for a culture to be returned if a patient has a severe infection of the throat. We give sulfathiazole regardless of a culture.

THE CHAIRMAN: In other words, no harm will result if temporarily used until it can be determined if there is clinical improvement as the result of the use of these drugs.

DR. HARVEY H. SEIPLE (Lancaster): I should like to ask if it is the practice for general practitioners to take a blood culture in every case. These patients do

seem to get prompt relief from the sulfanilamide in cases of infection.

DR. CAMPBELL: I did not mean to give the impression that the drug should not be used without a culture in cases that can be diagnosed clinically as streptococcic infections. The throat that shows a fiery red appearance of the pharynx or tonsils, a swollen condition of the palate, and white spots on the tonsils can pretty definitely be considered streptococcic. Therefore, if a patient is seen early, on the first day, it would be an excellent idea to give the milder of the drugs, probably sulfathiazole, and then perhaps get a culture later to be sure. For statistical purposes, a culture must be obtained.

If a case is seen on the third or fourth day, it is questionable whether you will want to give the drug when the disease will ordinarily clear up in 2 or 3 days anyway. Of course, if the infection is unusually virulent and you suspect complications will develop, then it would be well to start the drug and give it in large doses even when the disease has been present 2 or 3 days.

DR. LILLIE: I should like to ask Dr. Campbell if he feels that the use of any of the drugs has decreased the occurrence of mastoiditis following acute otitis.

DR. CAMPBELL: I feel very definitely that it has. We certainly see fewer cases of mastoiditis that come to operation now than we did a few years ago, and 2 or 3 of the New York physicians have told me it is the same in New York as it is here in Philadelphia. They do not see nearly as many operable mastoid infections as formerly. It must be because the physicians who see these ear conditions early are giving the drug early, and that, of course, is the most favorable time for it to have influence. Therefore, these patients do not develop ear abscesses, or if an abscess does occur, it is mild and does not develop into surgical mastoiditis. I feel the use of the drug has had great influence in such infections.

DR. LOCKWOOD: In connection with this discussion of the treatment of otogenic and otitic infections, I had occasion recently to see a very interesting case summary prepared by Dr. E. P. Fowler, Jr., in New York. I believe it appropriate to mention one very important observation that he made.

He divided his cases into 2 groups—those treated under immediate hospital supervision and those to whom the drug was given in the outpatient department and who were then sent home with instructions as to how they should take the drug, but without definite supervision of the timing of the dosage.

In spite of the fact that in general the more severe cases were those that were hospitalized, the results in that group were somewhat better than the results among the patients who were given the drug or were told to get the drug and take it at home, and there seems to be only one reason for the difference. The patients who took the drug at home probably missed doses frequently; they went to bed at 10 o'clock and got up at 7; they went all night without taking any drug, which would be quite natural for them to do because it is very inconvenient to set the alarm for the middle of the night to take a couple of pills. However, from what we know of how these drugs work, it is very important that the dosage be continuous around the clock, and repeated certainly at intervals of not longer than 6 hours, and preferably every 4 hours, in order to maintain a uniform level.

When patients are given one of these drugs to take at home, they should be given printed or written directions, and the exact time schedule by which they are to take the drug should be specifically stated in the directions.

DR. WALTER M. BORTZ (Greensburg): May I ask Dr. Lockwood if the dosages given in the hospital in the severe infections are the same as the dosages given to the patients who are ambulatory at home?

DR. LOCKWOOD: Dr. Fowler's patients were not necessarily ambulatory patients. They were ambulatory in the sense that they came into the hospital, but they were told to go home and stay in bed for the period of the treatment.

The dose schedule can be somewhat higher for the patient in the hospital than for the patient treated at home; but if these drugs are given at all, it is a good idea to tell the patient to stay in bed and prescribe the amount of drug which you have reason to believe will be effective.

I question whether the difference in the total dosage was a significant factor. The patient in the hospital might, for example, get 6 grams a day and the patient at home might get 4 grams, but I cannot say whether this particular group had any such distinction in dosage.

DR. CHARLES D. AMBROSE (Ligonier): It seems to me that I have been told—it was my practice, at least—to count daily doses. So in giving sulfanilamide, if I wanted to give 80 grains in a day, I prescribed 80 grains and told the patient to take it all in the forenoon and then forget about it for the rest of the day. Then the next forenoon the next daily dose was taken, the idea being to give the medicine as quickly as possible so as not to interfere with nutrition.

Now I am told that that is all wrong, and I should like to ask Dr. Lockwood if I am extremely out of line in my previous practice and information.

DR. LOCKWOOD: In starting treatment in a case of severe infection, it is perfectly all right to start out with a dose which, after the first day, will be a 24-hour daily dose; in other words, if you want to give a patient 60 or 90 grains a day on the second day, it is perfectly all right to start out with an initial dose of 60 or 90 grains in order to get the blood level up rapidly. But following that, it is very important that not more than 6 hours intervene between doses. The total 24-hour amount ought to be divided into 4, and in severe cases 6, fractions, given by the clock, because these drugs are excreted very rapidly. It is not only the blood level that we must consider; it is the level of the drug in the tissue fluids in the vicinity of the infection. These levels drop parallel to the blood level as the drug is excreted, and unless the readministration of the drug is continuous, the bacteriostatic levels of the drug may rapidly fall to a point where they are no longer controlling the growth of the organisms, and the whole effect of the initial dose may be lost.

I think you will obtain better results by giving the drug according to a continuous schedule of that sort.

DR. GENE B. HABER (Philadelphia): I should like to ask Dr. Flippin to discuss toxicity, and also the question of acid-fast bacilli.

DR. FLIPPIN: In discussing the toxic manifestations of the sulfanilamide group of drugs, it is well to point out several factors which tend to influence their incidence and severity. The length of time that the drug is administered is the most important factor. Also, chil-

dren seem to tolerate these drugs better than the aged, those of good nutrition better than the poorly nourished, and, to some extent, the colored race appear to tolerate these drugs better than the white race. Furthermore, the incidence of certain toxic effects depends on whether the patient is ambulatory or is confined to bed.

Ambulatory patients complain of dizziness rather commonly, especially with sulfanilamide or sulfapyridine therapy. The recognition that dizziness may occur is important, especially with respect to patients who drive automobiles. The most frequent toxic reactions from these drugs are nausea and vomiting, and they usually appear during the first 24 hours of therapy. The vomiting associated with sulfanilamide (30 per cent) and sulfathiazole (20 per cent) is as a rule mild and rarely does it become so severe as to necessitate stopping drug therapy. However, in the case of sulfapyridine (60 per cent) vomiting constitutes a more serious problem and not infrequently it is necessary to stop treatment. A careful check on fluid and salt balance is indicated in cases of severe vomiting.

Cyanosis is often observed in patients receiving sulfanilamide, but is produced to a lesser degree with sulfapyridine or sulfathiazole and it can be disregarded. Drug fever is seen in approximately 9 per cent, 2 per cent, and 4 per cent of patients receiving sulfanilamide, sulfapyridine, and sulfathiazole respectively. It may occur at any time, but is most commonly seen 5 to 10 days after the beginning of treatment. Frequently it is followed by dermatitis, hemolytic anemia, or neutropenia, and if drug fever occurs treatment should be stopped. Drug rashes occur with sulfanilamide (2 per cent), sulfapyridine (2 per cent), and sulfathiazole (4 per cent), and may occur at any time after the beginning of treatment, especially after the fifth day. If the patient's condition warrants, the drug may be continued with extra precautions, although it is best to stop treatment. Psychoses due to these drugs occur at any time with sulfanilamide (2 per cent), sulfapyridine (3 per cent), or sulfathiazole (4 per cent). If the infectious process is under control when psychosis is observed, the drug is best discontinued. Conjunctivitis is seen only in patients receiving sulfathiazole (2.5 per cent) and occurs usually after the fourth day of treatment.

Hematuria is not observed with sulfanilamide, but occurs microscopically in about 10 per cent of patients treated with sulfapyridine and sulfathiazole. Gross hematuria occurs in 1 per cent of sulfapyridine-treated cases, but has as yet not been encountered by us with sulfathiazole. Unless a considerable number of red blood cells are detected, or evidence of ureteral blockage is apparent, cautious treatment may be continued, but it should be remembered that hematuria is often a precursor of severe renal insufficiency. It is important to maintain a daily urinary output of at least 1200 c.c. to facilitate the excretion of the acetylated fractions of these compounds which are largely responsible for these urinary disturbances. Renal calculi are seen in approximately 0.2 per cent and 0.3 per cent of patients receiving sulfapyridine and sulfathiazole respectively. In such cases the drug should be stopped.

Acute hemolytic anemia occurs in 1.5 per cent of patients receiving sulfanilamide and in 1 per cent treated with sulfapyridine. It usually appears during the first 4 days of treatment and the drug is best stopped. Mild anemia of the hemolytic type is frequently seen with sulfanilamide and sulfapyridine, but to a less degree with sulfathiazole and is not considered serious. De-

pression of the white blood cells may occur at any time with these compounds, but no deaths have been reported during the first 12 days of therapy. Other toxic effects, such as hepatitis, purpura hemorrhagica, and neuritis occur rarely with sulfanilamide or sulfapyridine.

It is apparent from this brief discussion that the side effects associated with these drugs are many, but if the patient is closely followed the severity of these toxic manifestations may be diminished.

THE CHAIRMAN: These concentrated reports of the toxic effects of these drugs are exceedingly valuable, and it occurred to me that someone might like to discuss the unfavorable results which they have experienced in the use of these compounds.

Recently, while attending a meeting at which a great many general practitioners were present, they opened up their hearts and told about the failures they have had. In many cases these drugs were used when not indicated and poor results were obtained.

One physician reported that he had a patient to whom he had given sulfanilamide tablets and also aspirin, and he told the patient to alternate on third hours with a 5-grain tablet. He chewed the tablet of sulfanilamide without water, and as a result the mucous membrane of the interior of the mouth came off. This physician thought the other practitioners should know about this experience to prevent a like one.

I should like to hear additional expression of opinion as to the unsuccessful use of these drugs. I think many failures are due to the use of the drug when it is not indicated. I have learned that a great many general practitioners will use as an ordinary cold remedy a small dose of sulfanilamide. One physician stated at this conference, after hearing the experience of several others, "No wonder I had some violent reactions when I had grippe last winter."

I understand now that in "ordinary grippe," which is a virus infection, these drugs are contraindicated.

One thing has been brought out that might be emphasized, particularly in pneumonia cases. Recently I examined a patient who had been operated upon because of acute mastoiditis by another physician. The patient had recurring mastoiditis all summer, a mastoid with no pus but with pain. It developed that as soon as the pain left him, he discontinued the use of these drugs. I think it is generally conceded that if you wish a complete cure, you must continue using this drug until you can be absolutely sure that there are so few bacteria in the body that the body defenses can be stimulated or the resistance so increased that the bacteria will not multiply.

It is not uncommon in pneumonia, when serum is given and the temperature returns to normal, to discontinue the serum; but in ordinary pneumonia the dose should be decreased gradually over a period of 10 days to prevent a recurrence unless there is contraindication.

DR. HARRY LOWENBURG, SR. (Philadelphia): Could the topic be discussed from the standpoint of pediatrics?

THE CHAIRMAN: Certainly, Doctor.

Failures Due to Small Dosage

DR. LOWENBURG: In the first place, I believe that failures with these drugs, where their use is really indicated, are due almost invariably to the fact that they are used in too small doses rather than too large doses, and secondly, when they are used where they are not really needed or when the wrong drug is selected.

In hospitals one encounters trouble with the physician

who uses these agents only occasionally. This is particularly true of the surgeon and the otologist. The average surgeon, in my experience, knows very little about the use of these remedies and the intensity with which they should be used when their use is urgently indicated, and this is true also of the average otologist.

In the midst of treating a very serious condition, the surgeon at the first sign of a little cyanosis, a little anemia, a tendency to ketosis, or a little jaundice, if you will, says, "Don't you think we had better stop the sulfanilamide" or the sulfathiazole or whatever one may be using.

If there is a real indication for these remedies, especially in those diseases which we know have been fatal heretofore, particularly the cases of streptococcic meningitis of otitic origin and the cases of so-called idiopathic peritonitis, all of which have been giving a very high mortality, one may say we are between the devil and the deep blue sea, and we feel, to express it crudely, that the physician should use these remedies like a drunken sailor spends money. I do not think there is any danger from overdosage in these types of infection.

I have just completed the treatment of a case of streptococcic idiopathic peritonitis in which a girl of about 7 or 8 years received over 2000 grains of sulfanilamide. She made a recovery. I had a case of streptococcic otitic meningitis that received over 4 ounces and several others of the same types who received almost equally large doses. These patients all recovered.

Recoveries from otitic meningitis and from idiopathic peritonitis have been extremely rare up to the time of the introduction of these remedies. I think, as stated, that failures in most instances of this sort are due to using these drugs in insufficient quantities.

In my experience, children react to these remedies in a much better way than I am told adults do; that is, many of these serious complications mentioned do not occur. We have been using these remedies ever since they were introduced and, conservatively, I think we may say that we have used them on 300 or 400 patients. I can remember one case of thrombocytopenic purpura, one case of hemolytic jaundice, and one or two cases of hematuria. All these patients recovered; nothing happened when the remedy was stopped and when we used blood transfusions if we thought they were indicated. In regard to blood transfusions, I believe they should be used for a reason and not routinely. They should not be used until the hemoglobin gets below 70 per cent.

I also feel that it is quite right to use these remedies in the presence of anemia if the anemia, as it often is, is due to infection. I have seen the blood level come up without transfusions when the infection subsided as the result of using these remedies boldly in the presence of such an anemia.

In hospitals every case with a surgical aspect should have the supervision of someone on the medical or pediatric staff who understands something about these remedies, about the blood concentration necessary, about the complications, etc. The average surgeon and the average otologist cannot be expected to be as familiar with the proper use of these agents as is the medical man.

In reference to the use of alkalis, we have been using sulfanilamide and the other sulfonamides since they were introduced and we have never prescribed a dose of bicarbonate of soda. We have used sodium citrate. From a pediatric standpoint, if alkalis are necessary

(and I learn from my friend, Dr. Schwartz, that you gentlemen of the scientific group feel that they are not), sodium citrate is a much better remedy. It is easily given with syrup of lemon and water. It does not cause tympanitis, and it is just as potent from the standpoint of alkalinity. We were also flattering ourselves that we had not had any cases of renal calculosis because we had used the citrate. I suppose this is wishful thinking.

I want to say a word about the method of administering these agents to children. Sometimes it is difficult to get a child to take them. We have had some cases at Mount Sinai Hospital where we were giving the remedy in sufficient amount to cause us to expect a blood concentration of 10 or more, and it was only 2, 3, and 4, etc. At first it was thought that perhaps the drug had not been given, but the nurse said that it had been and the record showed it. Finally, it was revealed that the child frequently blew the powder away. To overcome this we conferred with Miss Mary Abramovitz, the chief pharmacist at Mount Sinai Hospital, and requested her to make a suspension or a partial suspension of the drug. The following formula was evolved and I give it to you, because I think you will find it quite useful: Sulfanilamide 3ii-3iv, powd. tragacanth gr.xx, glycerin Mlxxv, alcohol Mlxxxv, syr. raspberry fl.3iv, Aq. dest. q.s. ad.fl.3vi.

This must be shaken very well for at least 5 minutes before pouring the dose. It should be dispensed with a "Shake Well" label. Each fl.3ii represents 5 to 10 grains of the remedy as the case may be. Either sulfapyridine or sulfathiazole may be substituted in this prescription for the sulfanilamide if either one of these remedies is to be employed. We have been administering this prescription instead of using the powder. It is important to specify that the drug be pure and not mixed with bicarbonate of soda. We administer it without water. The dose desired is placed on a spoon and it is given to the baby and he is helped to swallow it. A little water or fruit juice may well be at hand to be given immediately after the medicine. The child usually does not spit and sputter and the remedy gets down where it belongs, namely, into the stomach. In other words, when you are considering the oral administration of these remedies to children, you have to be sure that the drug gets where you want it to be.

We have not as yet made any comparative blood concentration studies in relation to giving these drugs this way and in powder form. We intend to do so later. Perhaps Dr. Flippin or Dr. Lockwood, who have better facilities than we do, might undertake a study of this kind. It would be interesting.

I thought it was important from the standpoint of the pediatrician to discuss this method of administration. Of course, if the child is very ill and it is desired to bring him under the influence of the remedy quickly, then the latter must, where this is possible, be administered intravenously, in the beginning, to be followed later by oral administration. The intravenous route should be given preference over subcutaneous injection. Also it should be noted that the .8 per cent solution of sulfanilamide in normal saline may, in comatose children, be given through an indwelling nasal catheter over a long period of time. Three c.c. per pound per day are given, the total dose being divided into 6 doses given at 4-hour intervals. Blood concentration of a high degree may be maintained by administering the drug in this fashion, or the prescription described herein also may be given, somewhat diluted, through the indwelling nasal catheter.

DR. D. SERGEANT PEPPER (Philadelphia): This formula brings up the question of the incompatibility of these drugs. In my experience, alcohol has been the only drug which has produced incompatibility. The combination of alcohol with sulfanilamide or the other compounds has seemed to increase the mental reaction. I found this out by taking some sulfanilamide and then taking a cocktail. I can assure you that if any of you want to find out about this incompatibility, it is a very interesting type of experiment. I should like to ask Dr. Lowenburg if he has seen any reaction of this type.

DR. LOWENBURG: I would want to be sure you did not have bootleg whiskey, or something like that. I have not seen anything like what you describe.

Alcohol in this formula, after all, is used in a very small amount—only 35 minims in 6 ounces. It is put in to prevent fermentation. I imagine it could well be left out.

As I said, I would like those who are better able than myself to carry on investigative procedures to study these drugs when administered this way.

THE CHAIRMAN: I think alcohol might well be left out because this is an emulsion. I do not believe that it contributes anything to the effectiveness of this prescription.

DR. LOWENBURG: The pharmacist put it in, and I have not asked her why. I will.

DR. CHARLES L. BROWN (Philadelphia): In speaking of possible incompatibilities, I think it might be worth while to pass along a bit of information which is difficult to interpret at the moment, but nevertheless may serve as a caution. In talking with a friend who had attended the current meeting of the American Roentgen Ray Society in Boston, I was told that Dr. George W. Holmes, of the Massachusetts General Hospital, had informally brought up this matter.

Nowadays the use of contrast media by the intravenous route in studying urinary tract conditions is common, and the urinary tract infections, of course, are of particular interest in chemotherapy. The roentgenologists have reported that they are noticing more catastrophic events in connection with the use of these urographic drugs. Dr. Holmes brought out the point, so I understand, that the catastrophes they had learned about occurred in patients who had been given sulfanilamide or one of the sulfone compounds, and enough observations of that kind had come to their attention to make them more cautious in the use of these urographic methods in patients who at the time had significantly high blood levels.

As far as I know, iodine otherwise is not incompatible in the use of these drugs. It would be of interest to hear of any other experiences in this regard.

THE CHAIRMAN: Someone has inquired as to when gonorrhea is cured by these drugs. Will Dr. Pelouze discuss this subject?

The Sulfanilamide-Gonorrhea Romance

DR. PELOUZE: As I listened to the discussions of those who have been dealing with the sulfonamide drugs in the treatment of pneumonia, I was struck by the great difference between their problem and that holding in the treatment of urogenital gonorrhea. Apparently in no other field has there been more romance spun around a chemotherapeutic effort than was that regarding the use of sulfanilamide in the treatment of gonococcal infections. Indeed, one with much sense

might call it the "sulfanilamide fiasco," for seldom have physicians more generously fooled themselves and others than was the case in the early days of enthusiastic reports.

So different were the earlier writings upon sulfanilamide for the treatment of this disease from what we now know to be fact that it is well worth while to analyze the reasons for this undoing. It is not fair to dismiss the matter by hinting that the mistakes were made by some blood brothers Ananias, for most of them were honorable men. One rather appropriately might ask, "How could urologists deceive themselves and others so grossly?" For almost all of those who wrote the papers were urologists. The answer is a simple one even if it does sound a trifle critical. Largely it runs like this: Our urologists have been so occupied with the glories of surgery that gonorrhea did not catch their interest or fancy. They either forgot, or did not know, that unless one is particularly wise about the ways of gonorrhea he is very likely to be fooled by it. So they started to use sulfanilamide, forgetting that time alone does much for gonorrhea. And they erroneously assumed that every patient who eventually recovered from his gonorrhea, whether it took 60, 90, or 128 days, did so because he had been given sulfanilamide. As a result, cure rates of from 50 to 90 per cent or more were claimed, whereas one must be generous to a scientific fault to attribute to this particular sulfonamide a cure rate of even 30 per cent. The differences mark the degree of romance born of a none too great familiarity with the clinical course of urogenital gonorrhea under varying conditions and the kindly action of time upon the disease.

The unfortunate part is that it will take a long time to spread the knowledge that, of the 3 sulfonamides now on the market, sulfanilamide is the least effective. Indeed, those who have given most attention to the matter are insisting that it should not be employed for any type of gonorrhea. Not only does it cure fewer patients but it has the highest carrier rate of any of them; and, from a public health standpoint, this carrier stage is an extremely important matter and one well worthy of careful study. Each one of these drugs has a tendency to make asymptomatic gonococcus carriers. For sulapyridine and sulfathiazole the rate seems to be low, but with sulfanilamide it very possibly runs as high as 20 per cent or more.

Any form of treatment of this disease that makes even a few gonococcus carriers should make us pause. One that can produce this socially dangerous state in upwards of 20 per cent should make us gasp. But when we consider the later sexual contacts of these carriers, we meet with another arresting surprise. When these individuals transmit the disease to another, most, if not all, of these secondarily infected individuals become totally asymptomatic carriers. However, when the infection is passed on to a third party, that unfortunate has frank gonorrhea that leaves no doubt in his mind or the physician's mind as to what ails him.

As a result of many unpleasant surprises, we find ourselves resorting to the same type of verbal evasion as have the syphilologists for years. They hedge on that question of "cure" by using the term "clinical cure" and we now are talking in terms of "apparent cure." We do that because of the great difficulty, even impossibility, of proving that these cases are cured. For, despite our old "tests of cure" and the addition of the most careful microscopic and cultural studies, some of our supposedly cured patients have returned with re-

currences that could not possibly have been reinfections. Thus, it is obvious that in patients treated by any of the sulfonamide drugs our older so-called tests of cure are not to be relied upon. For instance, if in sulfanilamide-treated cases we assume that cure has been accomplished just because we have carried out these tests and the patient has a persistently clear urine for 2 weeks or longer, we will pass back into social activity one gonococcus carrier in every 3 cases. If we add to these criteria the most careful microscopic searches of the obtainable secretions, our margin of error is only 1 out of 20; the rest will be proved carriers. If to these we add several careful cultural studies, we will miss about 1 out of 100 persisting infections.

From all this it is obvious that no one can positively state that such patients are really cured and, if we would do our best by society, we should insist that every one of our "apparently cured" patients should refrain from unprotected sexual intercourse for some months after we dismiss him from further treatment. In the present state of our knowledge there is no other way to protect later sexual contacts.

Turning from sulfanilamide, there is ample experimental reason to believe that both sulfapyridine and sulfathiazole will give higher cure rates. Some careful clinicians who have checked results by repeated cultures have attributed to both apparent cure rates of from 80 to 90 per cent. As sulfathiazole is far less toxic than either of the others, it is obviously the best and safest drug.

While both of these drugs are much higher in price than is sulfanilamide, their far greater cure rate makes them well worth the added cost to the patient. And, if judgment is used and a few simple rules are followed, this greater cost can be reduced greatly. It is outstanding that, in the treatment of urogenital gonorrhea, high blood concentration is not a factor of any importance. Indeed, some of the best results have occurred in patients where this concentration was never higher than 1.5 mg. per 100 c.c. of blood, and some of the most dismal failures have occurred in patients where it reached 15.0 mg. Thus, high dosage is not needed. One may start with 3.0 Gm. per day and after the first 3 days reduce the dosage to 2.0 Gm. and obtain as good results as are to be had from higher dosages.

It has been shown further that if the patient is not symptom-free by the end of 5 days of medication, he safely can be classed as a drug failure and the drug can be stopped; or, after a few days' rest, another sulfonamide preparation can be substituted. Also, it is scientifically safe to say that if the patient is not cured by the end of 10 days the drug being used will not cure him. Such a reduction in dosage from that used in pneumonia and other diseases, together with the shortened period of medication, is of great help in the treatment of a disease that so frequently afflicts the poor. Also, the discovery of a sulfonamide so lacking in toxicity as is sulfathiazole offers much in safety for treatment of a disease that so rarely confines patients to bed.

From all of this it is obvious that these lately discovered chemotherapeutic agents place in our hands the possibility of stamping out with much rapidity an enormous number of infections. In order to be of real value, it will be necessary to keep our patients under far better control than is now the case in most dispensaries for the treatment of the poor. It is not generally known, but at least 75 per cent of these patients lapse treatment long before cure has taken place. In

many dispensaries this lapse rate is over 90 per cent and in some it reaches the perfect score of 100 per cent. Surely this is poor public health.

THE CHAIRMAN: Dr. Stainsby, will you tell us about the use of these drugs in medical conditions other than pneumonia and meningitis?

DR. STAINSBY: I will try not to include subject matter which has already been thoroughly discussed this morning.

I would like to present a rather critical review of the sulfonamide drugs, and I should like to point out that, while they are of remarkable therapeutic value, it has not been clearly determined which one of them should be used for each of the various diseases in which they are known to be of value. My views may be a little conservative and may differ somewhat from those expressed.

As regards hemolytic streptococcus infections—and I refer to erysipelas, scarlet fever, hemolytic streptococcus septicemia, and to all conditions clearly caused by this organism—sulfanilamide is undoubtedly the therapeutic agent of choice, although sulfathiazole has some value in these infections.

If, in infections, cultures show mixed organisms in which staphylococci are present, there is no doubt then that sulfathiazole should be used instead of sulfanilamide.

I should like to mention also that in pneumococcal pneumonia sulfapyridine and sulfathiazole are both very effective drugs. I have noticed in the first hundred cases of pneumonia we have treated with each of these drugs that there is a distinct tendency for the fever to return to normal at a slightly earlier date with sulfapyridine than with sulfathiazole, although the mortality rate was similar in the 2 groups of cases. Nevertheless, for general practice, I would recommend sulfathiazole instead of sulfapyridine for pneumococcal pneumonia because it is a very effective medication, and primarily because it produces few serious toxic symptoms. Sulfathiazole is particularly of value when the patient is being treated at home and may develop nausea and vomiting under sulfapyridine. The family will not know what to do when these toxic manifestations develop and the physician may not be able to come to see the patient several times a day.

Sulfathiazole is undoubtedly the drug of choice in all staphylococcal infections, and one very interesting experience I had goes back to last January when the drug was first made available. A patient came in with a lung abscess of 5 months' duration. Naturally, an operation would have been the therapeutic procedure. However, as he had had this condition such a long period of time, we thought that another week or two would not be harmful to his health and sulfathiazole was given a trial. Under this medication he made a most remarkable recovery. Within 3 days of giving sulfathiazole, his bronchoscopic aspirations were free of staphylococci, and when we saw him 3 months later he was in normal health.

As regards dosage for the medical diseases, it has been stated that figures of around 10 milligrams per 100 c.c. of blood were most desirable for sulfanilamide. That corresponds very well with the figures we use, but we merely try to keep the range between 8 and 12 milligrams per 100 c.c., not getting above that point and not getting below. For sulfathiazole and sulfapyridine, we keep the blood level between 4 and 8 milligrams per 100 c.c. and find that it gives very satisfactory results.

I feel a little differently in regard to the statement made by one of the other speakers, who said that one can hardly give too much of the drug. There are very distinct toxic symptoms from overdosage, and I think we ought to be careful not to go beyond what we know to be effective therapeutic levels.

There is another point that I did not hear mentioned this morning, and that is in regard to meningitis due to the pneumococcus. It is well known that sulfapyridine penetrates the spinal fluid much more readily than sulfathiazole, and I feel that sulfapyridine is the preferable drug when we have a case of pneumococcal meningitis, even though none of us have had any large series of cases to back our impressions.

Going back again to dosage, we like to limit the initial oral dose of sulfanilamide to from 40 to 60 grains for the average adult, and we like to keep the 24-hour dosage given at from 4-hour to 6-hour intervals somewhere between 100 and 120 grains, always following it by the blood levels of the free drug.

As regards the initial doses of sulfathiazole and sulfapyridine, we usually like to keep the initial dose slightly lower, about 40 or 45 grains, with a maintenance dose of between 100 and 120 grains, likewise following the blood level of the drugs at daily intervals.

THE CHAIRMAN: These drugs have been widely used for conditions other than pneumonia and meningitis. If you review the literature, you are struck by the inconsistent reports that come from various sources; for instance, those on undulant fever. The mortality in undulant fever is very low ordinarily, and there have been reports of very remarkable cures with these drugs. Others report cures in cases of smallpox, tuberculosis, rheumatic fever, and scarlet fever. If they do not report cures, they report infrequent complications or shortening of the course of the illness.

These are problems which will have to be decided in the future. No doubt there will be new uses, better methods, and improved chemical compounds.

Surgical Conditions No Longer Surgical

This morning we heard something about the surgeon not knowing very much about the use of these drugs. We have invited one who does know a great deal about their use. Dr. Lockwood, will you tell us how to cure peritonitis and other surgical conditions so that they are no longer surgical conditions?

DR. LOCKWOOD: In discussing the application of sulfonamide therapy to surgical infections, I should like to point out the essential unity that seems to exist in all the different types of infections in which sulfanilamide is effective and the similarity among those lesions in which it is relatively ineffective.

In order to understand this unity, as I have called it, it is of considerable importance to have a working hypothesis of how these drugs work. The practical problems of surgery that come up in connection with the use of these drugs can for the most part be solved by keeping in mind the pathology of the process under treatment and relating the pathology to the mode of action of the sulfonamide compounds.

Some aspects of this subject of the mode of action with sulfonamides are still in a state of controversy. We all tend to have our own ideas, and I feel myself that not every point in my own hypothesis has been established beyond question. However, it is a hypothesis which in practice is extremely workable, and therefore it justifies its existence. At the same time there

is a considerable amount of scientific data to support the hypothesis.

The sulfonamides do not kill the bacteria in the tissues. The bacteria in order to remain as parasites in the body have to make use of the body fluids and body tissue in meeting their metabolic needs. The sulfonamide drugs enter the tissue fluids and the blood, and in some subtle way they tend to interfere with the ability of the organisms to make use of certain specific nutritive substances which bacteria require in order to grow. If the substances which they require in their metabolism are present in the tissues in large quantity, the presence of the sulfonamide drugs will have little effect on the bacterial metabolism. If, however, the substances that the bacteria require are present in small quantity, the drugs may have a very telling effect and result in the death of the organisms, not by direct lethal effect of the drug but by bringing about what amounts to starvation of the bacteria in the tissues.

The substances which the bacteria require and of which the sulfonamides tend to deprive them can be called sulfonamide inhibitors, and their presence in inflammatory lesions of various types is a matter of profound importance in the practical results likely to be obtained with sulfonamide therapy.

I will not attempt to go into the chemistry of these sulfonamide inhibitors except to say that they are present in very high concentration in products of tissue necrosis. Any infection which brings about an extensive degree of tissue breakdown or digestion or necrosis, whatever you want to call it, results in enzymatic degradation of the tissue and liberates a large amount of these sulfonamide substances, which will in turn prevent or tend to prevent the effective bacteriostatic action of the sulfonamides.

Let us take up the various types of infection in which sulfonamide therapy might be used in surgical practice. In the first place, a contaminated wound, a compound fracture, or a wound resulting from a colon resection is a fresh wound with an amount of necrotic tissue in it which varies with the nature of the wound, the effectiveness of débridement in that wound, and the duration of the wound after the trauma. The presence of sulfonamide inhibitors is usually low in these wounds, and therefore sulfanilamide therapy is particularly effective in preventing the outgrowth of the contaminating organisms in these wounds. We are tending most generally to use sulfanilamide as the drug of choice in wound prophylaxis of this sort, partly because we feel that in general it is a little safer than the other sulfonamides. We do not get the kidney complications that can occur with sulfathiazole, and for the time being we are tending to stick to sulfanilamide in this particular prophylactic use. Later on there may be reason to change, but for the present I think sulfanilamide is the drug of choice. In such traumatic wounds, infection can be prevented either by the administration of the drug by mouth or by introducing the drug locally into the wound either in the form of crystals or in the form of solutions. The high concentrations which can be obtained with local application will tend to prevent the outgrowth of types of bacteria such as staphylococci which might be resistant to the smaller concentrations obtainable with oral administration.

There is no reason yet to believe, however, that the local implantation or application of sulfanilamide in such wounds should be used as a substitute entirely for the systematic administration.

Another problem in surgical infection is the invasive

cellulitis accompanied by lymphadenitis and septicemia. If this is a hemolytic streptococcus process, as is usually the case, the development of necrosis and the liberation of sulfonamide inhibitors is delayed, and therapy with sulfonamide compounds tends to be very effective, particularly if given early. We see clinical results which can be explained only on the basis that somehow the drug has brought about the death of all streptococci in the tissues. Erysipelas is a good example of the susceptibility to sulfonamide therapy of non-necrotizing infections.

However, if the organism is a staphylococcus, a type of lesion in which necrosis tends to occur much earlier in the course of the disease, then the effectiveness of chemotherapy will be limited by the extent to which necrosis has developed. The necrotic process liberates sulfonamide inhibitors and prevents direct action of the drug in the necrotic zone.

A somewhat later stage in the development of infection is that in which there is a combination of spreading, diffuse cellulitis and a localized area of necrosis or suppuration. In such a mixed infection, sulfonamide therapy may attack the invasive component very dramatically but have little effect on the localized area of necrosis.

Effective in Diffuse Infections

This is particularly important in the treatment of diseases such as suppurative meningitis, in which there is a distributing focus usually present in necrotic bone, and it places a heavy responsibility upon the surgeon in diagnosing and attacking surgically the necrotic distributing foci which are at the basis of certain of these infections. Similar considerations exist in the treatment or the prevention of peritonitis following perforations of the intestine. The treatment is effective if the process is a diffuse one, and if there is no necrotic appendix or necrotic suture line within which bacteria can continue to multiply and produce toxins in spite of the presence of sulfanilamide. Although our clinical experience has shown that sulfanilamide is very effective as a means of treating peritonitis which develops following acute appendicitis and perforation, we believe

that it is of paramount importance to remove the appendix, and in our practice at the University Hospital we tend to operate on all patients on whom a diagnosis of acute appendicitis is made and as soon as possible after it is made, provided only that in cases complicated by shock the shock is treated before operation is performed. After the operation, sulfanilamide is given parenterally, if necessary, or by mouth after the patient starts taking fluids by mouth, and is continued about 5 days.

We believe that the drug would not be effective in treating infection of the appendix itself, but that it is effective in limiting the growth of the bacteria that have permeated the peritoneal fluid and surfaces beyond the limits of the localized area of necrosis. The use of these sulfonamide compounds in surgery boils down to a recognition of the effectiveness of the drug in diffuse lesions and the lack of effectiveness in areas of localized necrosis.

The intelligent application of surgery to the treatment of infections follows the same principles it has always followed. Surgical treatment of diffuse cellulitis and peritonitis itself has never been particularly effective. We now have a weapon which can be used instead of ill-advised surgery in diffuse infections, and we must continue to rely as we have in the past on surgical evacuation of abscesses, of areas of necrotic bone, and of necrotic appendices. We must continue to drain localized empyemas after they have formed, but this is another subject which I have not the time to go into now.

I think the statement made awhile ago about the relative lack of information among surgeons as to the value of these drugs, while it may be applicable in certain regions, is not generally true. I am encouraged to believe that surgeons are now developing a real interest and appreciation of the value of sulfonamide drugs and how to use them. We are getting reports from different hospitals and places of the particularly effective results being obtained with prophylactic sulfonamide treatment of peritonitis. It may take the surgeons a little longer to catch up with the procession, but I think they will get there eventually.

GENERAL PRACTICE A SPECIALTY

Most of the specialists today have special boards which grant them certificates showing that they are qualified for their particular field of work. Possibly it would be an incentive for greater effort and better qualifications if the general practitioner had such a board granting him a certificate recognizing his competence. One of the greatest means of combating the high cost of medical care and social medicine is the production of more and better qualified general practitioners in medicine. It is well recognized that most of the diseases that affect the human body can be properly handled by the qualified general practitioner. (Possibly 10 per cent need the services of a specialist.)

No man can afford to so specialize himself that he knows only one particular organ of the body. The tree of knowledge in medicine is such that every branch and leaf must be connected with the trunk in order to live. Superspecialization in medicine has been one great factor that has precipitated an attack on medicine in the past few years.

Are we having an increase of knowledge or an increase in ignorance? That question has been interest-

ingly dealt with by David Daiches of the University of Chicago recently. The more knowledge there is in the world, the more ignorant the individual is. As knowledge increases, ignorance increases, because it is difficult for one individual to know more than a small percentage of what there is to be known. In ancient times it was possible for an individual to know practically all that there was to be known in the arts and sciences, but not so today. In the future, individuals will become more and more ignorant in comparison to the sum total of human knowledge.

All of this is a challenge to the man in medicine, especially the man in general practice. Our medical schools must pay particular attention to their selection of students so that men who enter medicine are selected because of the fact that they are inherently students. Graduation from medical school is the beginning of a life-time devoted to constant study.

General practice is our greatest specialty in medicine today, and as time goes on the general practitioner's responsibility as far as study is concerned will be greater and greater.—*The Journal of the Arkansas Medical Society.*

Acute Otitis Media and Mastoiditis in Children

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THE frequency of otitis media may not have decreased, but certainly its severity and the frequency with which a surgical mastoiditis follows it have lessened.

Otitis media occurs more often in children under age 5 than at any other period of life. In a series of patients at the Philadelphia Hospital for Contagious Diseases 61.7 per cent of those developing otitis media were under age 5 and 30.2 per cent occurred between the fifth and tenth year.

It is interesting to note that in this series of patients 6.8 per cent had had their tonsils and adenoids removed, and of those who developed otitis media only 3.5 per cent had had theirs removed.

The general practitioner and the pediatrician are usually the first to observe this lesion. It is essential that they be familiar with the anatomy of the temporal bone and the symptoms and physical signs of otitic infection.

The anatomy of the eustachian tube in infants and in the younger children differs from that of the adult and lends itself to the spread of infection from the nasopharynx to the tympanum. It is shorter than in the adult, measuring from 16 to 18 millimeters in length while its breadth is equal to that of the adult. The tube is almost straight, having not yet acquired an angle. It is practically horizontal and the pharyngeal orifice is on a level with the floor of the nose. Consequently, infected material from the nose and the nasopharynx finds easy access into the tube when the patient is lying on his back, when he cries, or when he vomits. The external auditory canal of the infant differs from the adult in that at birth the osseous canal consists only of a bony ring and the remainder of the canal is membrano-cartilaginous. The drum membrane is almost horizontal. There are numerous fine hairs in the canal which make the examination of the tympanic membrane difficult. By the end of the second year the canal has assumed the characteristics of the adult.

Acute suppurative otitis media more often is the result of a spread of infection from the nasopharynx through the eustachian tube to the tympanic cavity. Inflammatory changes take place in the mucosa lining the eustachian tube and the tympanic cavity. This alteration of the mucosa in the eustachian tube causes interference in aeration and drainage of the inflamed tympanic cavity. This is followed by an accumulation of fluid and at times air in the middle ear. Lassitude, fever, pain, restlessness, and insomnia accompany it. The tympanic membrane becomes inflamed first along the long handle of the malleus and posterior half of the tympanic membrane. At this point the symptoms may subside or increase in severity depending upon the treatment instituted, the severity of the infection, and the resistance of the patient.

At the first sign or symptom of involvement of the middle ear the patient should be put to bed in a warm room. Attention should be directed to the nose and nasopharynx for the reduction of the swelling of the mucous membrane and the removal of secretion. Changes in posture help to reduce the collection of secretion in the nasopharynx, such as placing a child in a more upright position or, in the infant, having him lie on his abdomen. Older patients should be instructed not to blow the nose. When the severity of the symptoms increases, it must be decided whether or not a myringotomy is indicated.

Each case of otitis media presents a different clinical picture and the time for myringotomy depends upon the otoscopic examination and the general symptoms. When the otitis media develops in the early stages of a rather virulent infection in the nasopharynx, the tympanic membrane bulges early with the landmarks more or less quickly obliterated. There is a marked rise in the temperature and the pain is intense. In these cases it has been my practice to drain the middle ear. It relieves the pain, has a tendency to reduce the temperature, and is the best means of preventing the spread of infection into the adjacent mastoid cells. When otitis media de-

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velops later in the disease and the symptoms are not so severe, I prefer to resort to conservative treatment; namely, removing the secretion from the nose and nasopharynx and reducing the swelling of the nasal mucosa and that around the pharyngeal orifice of the eustachian tube. When the secretion in the nose and nasopharynx is thick and mucopurulent and is present in abundance, it may be removed by placing a small rubber catheter attached to moderate suction along the floor of the nose and into the nasopharynx. This causes little or no trauma.

Myringotomy as a Prevention of Surgical Mastoiditis

In a series of 14,733 scarlet fever patients at the Philadelphia Hospital for Contagious Diseases between the years of 1922 and 1929 inclusive, 10.8 per cent developed suppurative otitis media.

Patients with otitis media were divided into 3 groups: (1) those in which the tympanic membrane was incised before rupture; (2) those in which the tympanic membrane ruptured and was incised; and (3) those in which the tympanic membrane ruptured and was not incised. Of the first group, 6.6 per cent developed a surgical mastoiditis; of the second, 7.7 per cent; and of the third, 9.3 per cent.

In another series of 15,140 scarlet fever patients at the same hospital between the years of 1934 and 1937 inclusive, 8.6 per cent developed acute suppurative otitis media. In this series 5.5 per cent of the first group developed a surgical mastoiditis, 13.2 per cent of the second group, and 5.8 per cent of the third. In spite of the small difference between the incised and ruptured tympanic membranes, the writer prefers early myringotomy when the constitutional symptoms and physical signs indicate it.

Three conditions are essential for a satisfactory myringotomy—a quiet patient, good illumination, and a sharp knife.

Children under one year may be held satisfactorily, but older children and adults should have a general anesthetic, such as ethyl chloride; or what is preferable, if available, is nitrous oxide.

A free incision of the tympanic membrane should be made. It should be adequate in length to insure good drainage and should be made about half way between the long handle of the malleus and the posterior margin of the drum. It may be made from below upward or from above downward according to the custom of the otologist.

Repeated incisions are rarely necessary provided the original one is adequate. A tympanic

membrane which invites repeated incisions is usually one that is irritated by a discharge from the mastoid but not in sufficient quantity to keep the incision open.

When myringotomy is performed early, not infrequently a hiss or snapping sound is heard followed by a varying amount of serosanguineous fluid. When the tympanic membrane is incised late, it may appear thick and edematous with pus exuding through it.

Irrigations are usually not necessary unless the discharge becomes so thick and purulent that it interferes with drainage.

Frequently following incision the ear may discharge a serosanguineous fluid for a few days followed by resolution. In others, fever, pain, and discharge may persist for several days and then subside; while in others the temperature may remain irregular, the pain continue interruptedly, tenderness over the mastoid may persist, and impaired hearing may increase. In these cases one suspects that the infection is not confined to the middle ear but that it has invaded the mastoid cells. All patients with acute otitis media should be carefully observed. The temperature, pulse, and respiration should be watched. A roentgenogram, when possible, should be made as soon after the onset of otitis as feasible. This shows not only the type of mastoid present but the appearance of the cell structure before extensive involvement has taken place. This picture can be compared with a subsequent roentgenogram to determine the change and the extent of the involvement of the mastoid process. Blood counts and the sedimentation tests are of great value in determining whether the infection is subsiding or progressing.

At present sulfanilamide is widely used in the treatment of otitis media and mastoiditis and astonishing results are reported in the literature. If sulfanilamide is to be given, it should be administered early in acute otitis media and not continued indefinitely. The patient should be hospitalized so that careful observation is possible. Sulfanilamide may mask the symptoms and lead one to believe that the patient is progressing while in reality an extensive destruction of the mastoid cells is taking place. Sulfanilamide and its derivatives have little effect on the infection in bone. If the infection is in the blood stream or intracranial complications are suspected, sulfanilamide and its derivatives are of great value.

In determining the progress of the patient, no one factor can be relied upon to make a diagnosis. One must take into consideration the duration of the discharge, its amount and char-

acter, the roentgen-ray picture, the blood counts, the temperature curve during the course of the disease, deafness, insomnia and restlessness at night, and above all the appearance of the fundus of the canal and the appearance and behavior of the patient. There is no set period when resolution should take place. If the general appearance of the patient shows that he is losing ground, with evidence of anemia, restlessness at night, and increased impairment of hearing, surgical intervention is in order even if the temperature is normal. Not infrequently the incision in the tympanic membrane closes, yet destruction of the mastoid cells continues.

Conclusions

1. Those treating acute otitis media should be familiar with the anatomy of the temporal bone and the symptoms and physical signs of otitic infection.
2. The anatomy of the eustachian tube in infants and young children lends itself to the spread of infection from the nasopharynx to the tympanic cavity.
3. With the first symptom of otitis media the patient should be put at rest and proper treatment instituted.
4. Myringotomy should be performed when the inflammation in the tympanic cavity shows no tendency to undergo resolution.
5. Repeated incisions of the tympanic cavity are rarely indicated provided the first incision is adequate.
6. When sulfanilamide is used, the patient should be under close observation.
7. A mastoidectomy is indicated when the discharge has continued into the second or third week with clinical or roentgen-ray evidence of bone destruction of the mastoid.

ABSTRACT OF DISCUSSION

GEORGE M. COATES (Philadelphia): Dr. Williams has had such an enormous experience in these cases that he always tells us something that is worth while. If we could read his statistics and study them, we would find that they are even more valuable.

He said some things that are very comforting to me. If I interpret his paper correctly, it is a fact that in scarlet fever cases, and I presume in other cases too, most of those patients who develop otitis media and mastoiditis have not had their tonsils and adenoids removed. That is important at the present time because somewhere recently I read of a laryngologist who criticized again those laryngologists who indiscrimi-

nately remove tonsils and adenoids in children. He said that very shortly now we would be done with that, and we would realize that it was not necessary or desirable to do so.

Dr. Williams very properly called attention to the influence of the eustachian tube in infants and young children in the production of these infections of the middle ear. It is very true that the eustachian tube in the infant is wider and more open, relatively at least to the size of the child, and that, in relation to the position of the pharyngeal orifice, it is situated where it can more readily become infected from secretions draining from the upper part of the nose or the floor of the nose or from infected material coughed up or vomited up into the nasopharynx.

As to rupture versus myringotomy, Dr. Williams' statistics bear us out in our belief that myringotomy done relatively early, particularly in these contagious cases, is much preferable to allowing a spontaneous rupture to take place, as we have been taught for many years. It is perfectly true that many patients who do not come to us until rupture has taken place do get well, and they do not all by any means develop mastoiditis or any of the other complications. Nevertheless, a well-performed myringotomy is an added safeguard for the prevention not only of further infection but for the preservation of the proper function of the middle ear, namely, hearing.

A good, clean-cut myringotomy will certainly heal up more promptly after the pathologic condition of the middle ear has subsided than will an ugly ruptured drum membrane.

As to anesthesia, I again agree with Dr. Williams. To do a good myringotomy, you must have a quiet patient. A squirming child on the bed or held in the nurse's arms, or worse still, in the mother's arms, whose sympathies are all with the child and not with the surgeon, makes it almost impossible, unless you have very good luck, to do a good, clean myringotomy and get an ample incision for proper drainage. Roll the child up tight on the bed with a blanket from the chin to the heels, with the arms down at the sides, using 3 or 4 layers of blanket or sheet, and then the head can be held down firmly on the pillow and you can do a good myringotomy.

As to infants under one year of age, I do not think we should administer an anesthetic to them. I am afraid of anesthetics in these cases because they all have some acute respiratory infection aside from the ear infection, and a general anesthetic will add to the possibility of pneumonia developing. I have seen that happen even with the use of nitrous oxide gas.

Of all the anesthetics, nitrous oxide gas is the most ideal when it is available. It is harder to get than some of the others. I have used ethyl chloride successfully and I have never had any trouble from it, although trouble has been reported at times. The newer form of ether, vinethene (divinyl ether), is an anesthetic from which recovery takes place quickly, and I think that possibly it is the best and most available anesthetic we have today. Its action is very similar to the old cotton process ether manufactured some 20 years ago, which I always found most satisfactory as an anesthetic in these cases.

Pain in the Right Lower Abdomen in Women

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ONE of the commonest and frequently one of the most trying symptoms encountered by both the general practitioner and surgeon is pain in the right lower abdomen in women.

The usual association of this symptom with the diagnosis of appendicitis causes considerable alarm on the part of the patient, and is often confusing to her physician.

The main point I wish to bring out in this paper is that pain in the right lower abdomen is not necessarily synonymous with appendicitis in the female, and this is especially so in the younger group of women.

In the male this symptom does not have the same significance, nor does it present the difficult problem in diagnosis because of the anatomic and physiologic difference between sexes.

The symptom may occur in the acute or chronic form. When the patient presents herself with acute pain in the right lower abdomen, the following conditions are the principal ones that must be considered:

1. Pelvic inflammatory disease.
2. Appendicitis.
3. Ectopic pregnancy.
4. Ovarian cyst with twisted pedicle.
5. Hemorrhage from corpus luteum.
6. Rupture of graafian follicle (or corpus luteum).
7. Torsion of hematosalpinx.
8. Gastro-intestinal disturbance (with constipation or diarrhea).
9. Pyelitis, renal or ureteral calculus.

Ovarian cyst with twisted pedicle, ectopic pregnancy, appendicitis, and torsion of hematosalpinx require immediate operation, while pelvic inflammatory disease, gastro-intestinal disturbance, pyelitis, rupture of the graafian follicle, and hemorrhage from corpus luteum should be treated conservatively; (if bleeding with severe hemorrhage is from corpus luteum, operation is indicated). Renal or ureteral cal-

culus may or may not require immediate operation.

Probably the most frequently encountered condition giving rise to pain in the right lower abdomen in women is pelvic inflammatory disease. When pain happens to be localized in the right lower abdomen, however, the patient usually thinks of "appendicitis," becomes worried, and because of this, medical advice is sought. If the pain happens to be located on the left side, less attention may be paid to the condition and with a few days' rest in bed the pain subsides and the whole episode is forgotten. This may explain why so many more patients with pelvic inflammatory disease seem to have pain in the right lower abdomen than in the left.

When a differential diagnosis is to be made by the elimination of certain possible conditions, we must be absolutely certain of the diagnostic points elicited by careful history taking and in the course of the subsequent physical and pelvic examination. I mean that if the patient is not frank in her statements to the physician, it may be impossible to make an accurate differential diagnosis since very similar physical findings may be present in both conditions, in which event the history becomes of more and more importance and is often the deciding factor.

Acute Pelvic Inflammatory Disease and Acute Appendicitis

Let us now take up the differential diagnosis between acute pelvic inflammatory disease and acute appendicitis, because these conditions occur more frequently than any of the others.

If the patient is questioned closely on the following subjects, a great deal of positive and negative information will be obtained:

1. Exact hour of onset of pain.
2. Date of last menses.
3. Relation of menses to onset of pain.
4. Any change in menstrual cycle 3 months preceding pain.
5. Frequency of urination.
6. Gastro-intestinal complaints (nausea, constipation, diarrhea).

Read before the Section on Obstetrics and Gynecology of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 1, 1940.

From the Department of Gynecology, Jefferson Medical College of Philadelphia.

7. Recent dietary indiscretions.
8. Method of onset of pain.

It is important to know the exact hour of onset of the pain because the course of acute appendicitis and that of acute pelvic inflammatory disease differ progressively as regards symptoms, physical signs, temperature range, leukocyte count, and sedimentation rate, as will be pointed out later.

Since a large percentage of patients with inflammatory disease have the initial onset of pain at the time of or in close relation with the menses, exact knowledge regarding this is extremely important. When a sudden attack of pain occurs with pelvic inflammatory disease, it may be assumed that the infection itself has doubtless been present for a variable time in the lower genital tract. It may have existed from 2 weeks to 2 months prior to the onset of pelvic pain. This fact might be of sufficient importance to cause an alteration in the functional activity of the ovary, which in turn is reflected by a change in the menses. This menstrual abnormality may represent one of several possible deviations from the normal; namely, prolongation of interval between menses, shortening of interval between menses, increase or decrease in number of days of menstruation, or pronounced dysmenorrhea.

Frequency of urination may be present, but it should be borne in mind that this symptom might not be present with the onset of pain. The urethritis caused by the gonococcus early in the disease might have been transient in character and be forgotten or ignored by the patient, especially since this particular symptom occurs not infrequently in women regardless of the presence or absence of pelvic inflammatory disease.

The patient should be questioned about dietary indiscretions which so often precede an attack of appendicitis, also about constipation or diarrhea.

In a typical case of appendicitis the pain is generalized throughout the abdomen or in the epigastric region. This persists for a varying length of time, after which the pain localizes in the right lower abdomen. The temperature in acute appendicitis in this early stage is not as high as that seen in pelvic inflammation.

The typical temperature in this stage of uncomplicated acute appendicitis is 99 F. or a fraction of a degree higher, while a temperature of 101 F. or even higher in the early stage of pelvic inflammatory disease is the usual finding. As time goes on and the diseased appendix, instead of regressing, progresses through the

stages of suppuration, gangrene, rupture, and finally abscess formation or generalized peritonitis, the temperature mounts higher and higher. This is in definite contrast with the *early* high temperature in pelvic inflammatory disease, with its tendency toward recession in about 48 hours.

Routine examination of the nose, throat, and chest to rule out a possible acute infection or to exclude diaphragmatic pleurisy on the right side should never be neglected.

Abdominal Examination

Localized tenderness is one of the most important physical findings in appendicitis and is in most instances located over McBurney's point (or about half way between the anterior superior spine of the ilium and the umbilicus). Pelvic appendices are found with relative infrequency in actual practice, and when present offer much difficulty in diagnosis.

On the other hand, many cases of pelvic inflammatory disease resemble appendicitis so closely that the question often arises as to whether or not the patient may not have both conditions simultaneously. This may happen on rare occasions, but it is infrequent in actual practice, for I do not recall a single case in the past 10 years at Jefferson Hospital, except an occasional case of periappendicitis in association with pelvic inflammatory disease. The patient either has appendicitis or pelvic inflammatory disease, not both conditions.

With pelvic inflammatory disease the tenderness is relatively lower than McBurney's point, but since there is usually localized peritonitis in pelvic inflammatory disease, the tenderness will be more diffuse and not as definitely localized as in appendicitis. By extremely careful palpation over the entire abdomen the exact point of greatest tenderness can generally be found.

Pelvic Examination

If this examination is performed properly, the presence of pelvic inflammatory disease or its absence can be determined with much greater facility.

Mistakes may occur at this stage because of an unsatisfactory position of the patient, poor light, and possibly because of too much haste and lack of gentleness. While it is not expedient in all cases to place the patient on a properly equipped examining table, it is, whenever possible, the ideal method of examination. Inspection of the vulva, urethral meatus, vaginal mucosa, and cervix is accomplished much more satisfactorily than if the patient is lying in a bed which usually sags in the center and thus

defeats the objective of the examiner. By visual inspection aided by adequate lighting, we gain information which the palpating fingers cannot alone elicit. If we see an inflamed vulva, evidence of urethritis or skenitis, an inflamed vagina and cervix, an inflammatory condition of the lower genital tract is obvious even before the bimanual examination is made.

After securing smears from the urethra and from Skene's glands, the bladder is catheterized, since in acute lower abdominal pain a spontaneous evacuation of urine may not be possible, thus causing retention which in turn interferes with the bimanual examination of the pelvis. Likewise, an uncontaminated specimen of urine is obtained.

After inspecting the cervix with the bivalve speculum, and obtaining a smear from it, the index and second fingers of the left hand are inserted into the vagina and the cervix is gently palpated for tenderness. The palpating fingers are now allowed to slip over the cervix into the left fornix which is then palpated for tenderness. The right hand is now placed over the symphysis toward the left side and pressure is made over this area simultaneously as the fingers in the left fornix are pushed upward in an attempt to bring the 2 hands together. This must be done gently; after eliciting or excluding tenderness, the vaginal fingers are shifted to the right vaginal fornix and the same procedure is repeated on the right side. The external (right) hand is now pressed inward in an attempt to elicit tenderness by bringing the fingers of the 2 palpating hands together. If there is no tenderness in the right adnexal region, the vaginal fingers are kept in place and the fingers of the external (right) hand, still on the lower right abdomen, begin to palpate from below upwards toward McBurney's point. If the appendix is involved, tenderness will be elicited as the palpating hand on the abdomen is leaving the pelvis and approaches McBurney's point.

The leukocyte count is very confusing in these cases (and while an increased white cell count indicates an inflammatory condition, it is of course not specific for pelvic inflammation). In a study of the leukocyte count in early pelvic inflammatory disease, K. E. Fry and I found 63 per cent of the patients to have between 15,000 and 30,000 white blood cells. This is not in complete agreement with previous ideas of leukocytosis in relation to pelvic inflammatory disease, and while space does not permit of prolonged controversy, I wish to emphasize that a high leukocyte count does not eliminate pelvic

inflammation as a possibility when contrasted with appendicitis.

The sedimentation test cannot be relied upon entirely to differentiate the 2 conditions because, in a critical study of 100 patients, Fry and I found that while 90 per cent of the patients with early acute pelvic inflammatory disease had an abnormal sedimentation rate, 52 per cent of patients with acute appendicitis also had an abnormal rate.

Smears that are positive for gram-negative, intracellular diplococci are usually indicative of pelvic inflammatory disease; on the other hand, negative smears do not exclude it.

Ectopic Pregnancy

This condition is not nearly as common as either acute appendicitis or pelvic inflammatory disease. It is more frequently confused with early or threatened abortion, pelvic inflammatory disease, and occasionally with appendicitis.

Many cases of ectopic pregnancy are very easily diagnosed. The most difficult type of case to diagnose is the tubal abortion, because there is not the sudden rupture of the tubal wall that causes the patient to faint or collapse when the blood first comes in contact with the peritoneum. The most important diagnostic points, however, in any type of ectopic pregnancy (excluding abdominal pregnancy) are as follows:

1. "Missed" period, or abnormal period, usually one, sometimes two.
2. Spotting.
3. Pain on involved side—stabbing, intermittent.
4. Temperature—normal at first until there is some blood in peritoneal cavity; with profuse internal hemorrhage, it is subnormal. In tubal abortion with a pelvic mass of clotted blood of several weeks' standing the temperature may go as high as 100 to 101 F.
5. Blood count—low hemoglobin and red cell count with high white blood cell count in tubal rupture. In tubal abortion there is usually a more moderate anemia and less leukocytosis.
6. Sedimentation rate—not much change in tubal rupture. In tubal abortion of several weeks' standing, it becomes abnormal and approaches that found in advanced pelvic inflammatory disease.
7. Pelvic examination—signs of pregnancy usually lacking such as duskeness of mucosa and softening of cervix, unless in unusually far-advanced cases, which are rather rare. The cervix is usually very tender on palpation and manipulation. A pelvic mass may or may not

be found; it is unusual in tubal rupture, but is often found in tubal abortion. Bulging in the cul-de-sac is more frequent in tubal rupture than in tubal abortion. Tenderness on the involved side is practically always present, and may be on both sides.

8. Friedman test—very important in doubtful cases, especially if positive. It is of no value if negative.

9. Diagnostic curettage with decidual reaction in curettings but no chorionic villi rules out intra-uterine pregnancy; decidual changes are not present, however, in all cases of ectopic pregnancy. In rare cases a corpus luteum cyst can give rise to a positive Aschheim-Zondek test, Friedman test, and also give a decidual reaction to endometrium. The treatment of ectopic pregnancy is operative as soon as the diagnosis is established or strongly suspected.

Corpus Luteum and Graafian Follicle Rupture with Hemorrhage

The exact frequency of occurrence of these conditions is difficult to estimate either from reported cases or hospital records, since probably most of these cases are unreported and hospital records are not always infallible, as we all know. In the usual McBurney or lower right rectus incision it is practically impossible to

inspect the adnexae thoroughly, and simply palpating these organs does not disclose their true condition.

These conditions are most frequently confused with appendicitis and ectopic pregnancy.

The most important diagnostic points used to differentiate these conditions are shown in Table I.

The relation of the onset of pain to the menses offers the most important clue. The graafian follicle usually ruptures at about the mid-interval time while the corpus luteum is the offender 7 to 9 days before the onset of the menses. If the patient has had amenorrhea, if only for a few days and possibly with a little spotting, followed by pain, ectopic pregnancy is immediately suspected. Both corpus luteum or graafian follicle rupture respond with tenderness on bimanual pelvic palpation. In appendicitis pelvic tenderness is not present, although the temperature and blood count of graafian follicle and corpus luteum rupture are consistent with an acute appendicitis. The method of onset of pain is different. As seen in the table, the patient with appendicitis in most instances has generalized abdominal pain at the onset prior to localization in the right lower abdomen. In corpus luteum and follicle rupture the patient has a sudden acute pain when the contents of the cyst

TABLE I

	<i>Acute Appendicitis</i>	<i>Ectopic Pregnancy</i>	<i>Hemorrhage from Corpus Luteum</i>	<i>Rupture of Graafian Follicle</i>
Method of onset of pain	Generalized pain first, then localized right lower quadrant	Sudden acute; patient may faint	Sudden acute; patient may faint	Sudden; less acute
Relation of onset of pain to menses	None	Amenorrhea or spotting	Just before menses	Mid-interval
Previous attack	In some cases	None	Possible	Occasional
Genito-urinary symptoms	Constipation, diarrhea, genito-urinary indiscretion	None	None	None
Pelvic examination	Negative	Tender cervix; mass in tubal abortion	Tender pelvis; no mass, unless bulge in cul-de-sac	Tender pelvis; no mass
Temperature	99 to 100 F.	Varies with condition; subnormal at times	Up to 100 F.	Around 99 F.
White blood cells	Usually increased 15,000 to 18,000	High in tubal rupture; lower in tubal abortion	Slight increase	Normal or slightly increased
Anemia	None	Marked	Varies	None
Sedimentation	Normal in 48% of cases	Normal, early; abnormal, late	Usually normal	Usually normal
Friedman test	Negative	Positive	Negative	Negative occasionally, with corpus luteum cyst

touch the peritoneum; there is no generalized pain preceding this. Not all of these cases are accompanied with a decrease in the red blood cells. Bleeding occurs most frequently from the corpus luteum, but a corpus luteum cyst may rupture without bleeding. For this reason there may or may not be a decrease in the red blood cells. The Friedman test, if positive, will rule out corpus luteum or graafian follicle rupture; but if the bleeding is sufficient, operation is indicated. However, most of these cases stop bleeding without recourse to surgery if kept quiet and not examined too frequently.

If these conditions are kept in mind whenever a young woman presents herself with pain in the lower abdomen, the correct diagnosis will be made much more frequently.

Ovarian Cyst with Twisted Pedicle

This condition may be confused with appendicitis, pelvic inflammatory disease, or ectopic pregnancy. It is most difficult to diagnose in an obese type of patient. The diagnosis is simplified if the patient has pre-existing knowledge of a cyst. The onset of pain is usually sudden and quite acute, but the patient rarely faints, as is more likely in ectopic pregnancy. The temperature is normal in the beginning, while the range is about 99 to 100 F. in appendicitis. The temperature will then vary with the condition; e.g., there will be a higher temperature with a ruptured appendix than with an ordinary acute appendix because of spreading peritonitis. Similarly, the temperature also rises in ovarian cyst with twisted pedicle when gangrene sets in followed by exudate and inflammatory reaction in tissues surrounding the cyst.

Ectopic pregnancy may exhibit a normal or subnormal temperature with the first loss of blood internally. However, if the condition is not immediately diagnosed, and the clotted blood is being absorbed by the peritoneum, the temperature then begins to rise.

In the history there may be no relation of the pain to the menses, and no missed period as in ectopic pregnancy. The blood count is normal at first in the case of ovarian cyst with a twisted pedicle, while there is a leukocytosis with appendicitis and pelvic inflammatory disease and a low hemoglobin and red cell count in ruptured ectopic pregnancy, as previously stated. The pelvic examination reveals a mass which confirms the diagnosis. The Friedman test is negative.

Torsion of Hematosalpinx

This condition is rather rare but is occasionally seen. It is possibly preceded by an inflam-

matory condition of the tubes with subsequent trauma. The patient usually has a sudden acute pain, and although she may not faint, the severity of the attack may "double her up" with acute pain. The temperature and pulse are usually normal or slightly elevated, and pelvic examination reveals a very tender mass on the involved side. The pain is usually so acute and the temperature so nearly normal, as is the sedimentation rate, that pelvic inflammatory disease can perhaps be eliminated as a possibility, leaving as probable diagnoses an ectopic pregnancy or the twisted pedicle of an ovarian cyst. Since operation is the treatment for any one of these conditions, the patient should be managed accordingly.

Gastro-intestinal Upset

Patients with gastro-intestinal upsets may develop symptoms of nausea, vomiting, and abdominal pain, all of which are very suggestive of appendicitis. Although this is not gynecologic in origin, the gynecologist must be prepared to differentiate these conditions. These women, as a rule, give a history of constipation or diarrhea or some gastro-intestinal indiscretion, which is followed by nausea, vomiting, pain, a slight rise in temperature, and possibly a mild leukocytosis. The menstrual history and pelvic examination are both negative. Rectal examination may reveal fecal concretions and scybalous masses. Abdominal examination will disclose a rather generalized tenderness, but there will not be the localized tenderness as is found in appendicitis. These patients usually have nausea before the onset of pain.

Chronic Pain in Right Lower Abdomen

Chronic right-sided pain in the female is always a challenge, especially in cases where the appendix has not been removed. These patients become "appendix-minded" after a certain length of time and sooner or later they are convinced that they have chronic appendicitis. While the diagnosis may be correct in a certain proportion of cases, many are incorrect as is proven by those who return to the various clinics after appendectomy with their usual pain in the right lower abdomen.

Alvarez showed rather conclusively in his article that, in a large percentage of cases, operation for chronic appendicitis unfortunately did not alleviate the patient's symptom of pain in the right lower abdomen.

In patients having pain in the right lower abdomen, chronic in nature, the following conditions must always be considered: chronic pelvic inflammatory disease, ureteral stricture or ureter-

itis, nephroptosis, chronic cholecystitis, chronic pyelitis, sacro-iliac disease, scoliosis, varicosities of the broad ligament, retroflexio version with adnexal prolapse, retention cyst of the ovary, intercostal neuralgia, and chronic appendicitis.

In 1937 I reported a series of 136 patients with pain in the lower abdomen referred to the gynecologic clinic for study. The largest proportion of these cases had pain in the right lower abdomen. The final diagnoses in this series of patients are shown in Table II.

TABLE II

<i>Diagnoses</i>	<i>Per cent</i>
Stricture of ureter	18.7
Chronic pelvic inflammatory disease	17.9
Sacro-iliac disease	17.2
Nephroptosis	9.3
Gallbladder disease	8.6
Hydronephrosis	5.0
Stone in kidney	4.3
Pyelitis	4.3
Stone in ureter	2.9
Scoliosis	2.9
Muscular neuralgia	2.9
Retention cyst in the ovary	3.5
Adenomyoma of the uterus	2.1

I have tabulated these diagnoses merely to emphasize the various conditions that may be found after a thorough and detailed study. Many of these patients had appendectomies performed in an effort to cure the pain prior to coming to our clinic for study.

As will be seen in studying these tables, pain in the lower right abdomen may be due to pelvic, renal, ureteral, or gallbladder conditions. It may likewise be caused by some disease of the spine or it may be due to muscular neuralgia. It will be noted that chronic appendicitis was not found in this series. Routine studies were carried out on all of these patients including pyelography, ureteral catheterization, gallbladder study, and also Carnett's test for muscular neuralgia. Not until all studies were completed and evaluated was the diagnosis established.

Summary and Conclusion

1. The conditions which may most commonly produce pain in the right lower abdomen in women have been enumerated.
2. Only the most important diagnostic points have been mentioned.
3. Pain in the right lower abdomen in women is less likely to mean appendicitis than it does in the male.
4. In every case of chronic right-sided pain

a complete study should be done including the kidneys, ureters, gallbladder, spine, and pelvic examination, which will greatly lower the incidence of the elusive chronic appendix and eliminate many unnecessary operations.

ABSTRACT OF DISCUSSION

ROBERT A. KIMBROUGH, JR. (Philadelphia): Dr. Lintgen has given a clear-cut presentation of the problems of the right lower quadrant of the abdomen. With the chief points on which he bases his differential diagnoses, no one of experience can disagree.

I would like to re-emphasize several points concerning the acute conditions. First, in practically every case of acute pelvic inflammatory disease the symptoms are preceded by some very definite provocative cause for the ascent of infection from the lower genital tract. The most common of these is menstruation, but coitus, alcoholic excess, and termination of pregnancy, whether by abortion or at full term, are well-known predisposing causes of an acute flare-up. An all too common cause is traumatic local treatment of the freshly infected cervix. Therefore, too much stress cannot be laid on the value of a detailed history of the sequence of symptoms in differentiating between acute adnexal inflammation and appendicitis.

Our observations are quite in accord with those of Dr. Lintgen in that the fever, the leukocyte count, and the rapidity of sedimentation are likely to be greater in pelvic inflammation than in acute appendicitis. These points, however, are strictly not pathognomonic of either condition and it must be remembered that these studies indicate the extent rather than the location of the process.

In our experience the sedimentation test has been of more value in determining the rate and degree of subsidence of infection than as a point in differential diagnosis.

Undoubtedly we will all agree that immediate operation should be performed in cases presenting a reasonable suspicion of appendicitis, particularly in patients who show no external evidence of gonococcal infection. If, under such circumstances, acute pyosalpingitis rather than an acute appendix should be encountered, it is strongly urged that the tubes not be removed. No further proof is needed that, with proper care, the inflammatory process will subside and the tubes will often be restored to complete anatomic and functional integrity.

I shall not enlarge on what Dr. Lintgen has said about the difficulty of diagnosis presented by ruptured corpus luteum. In many instances the differentiation between this condition and ectopic pregnancy cannot be made, but more careful attention to the relation of the attack to the menstrual cycle will prevent occasional needless operations for the former condition.

In closing, I want to commend Dr. Lintgen for his excellent record in not having to fall back on the diagnosis of chronic appendicitis in a single instance in dealing with 136 patients with chronic pain in the right lower quadrant. While chronic appendicitis undoubtedly exists as a definite clinical entity, we quite agree that this is a diagnosis which should be made after eliminating all more likely causes for pain.

Advantages of the Intranasal Tear Sac Operation

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DURING a period of over 20 years I have had an opportunity to operate on more than 2000 cases of dacryostenosis intranasally, and I wish to call the attention of the society to the technic, results, and advantages of the operation.

At the Ophthalmological Congress at Heidelberg in 1868 Berlin reintroduced the almost forgotten operation, the external extirpation of the lacrimal sac, and 20 years later de Wecker recommended the removal of the palpebral tear gland. Until within recent years, these 2 operative procedures, together with irrigation of the lacrimal apparatus, probing of the nasal duct, instillations, incisions in cases of phlegmon, incisions and curettage in cases of fistula, were the usual methods of treatment of dacryostenosis and its results. In most eye clinics dacryostenosis is treated in about the following manner:

Cases of dacryocystitis are treated by irrigations of the sac and probing of the duct, and when no result is obtained, the sac is extirpated through an external incision. And, in order to avoid the epiphora following removal of the sac, some ophthalmologists remove also the tear glands. When fistulas do not respond to irrigations, incision and curettage are resorted to. Phlegmons resisting treatment with compresses are incised, and after the inflammation has subsided the sac is extirpated. Should a fistula result from the incision of the phlegmon, it is usually curetted as previously stated.

With a complete extirpation of the sac, an uncomplicated case of dacryocystitis can be cured; however, the operation is usually followed by epiphora whether the tear glands are removed or not. Apparently, where there is no outflow into the nose, the subconjunctival glands of Krause alone produce sufficient tears to cause epiphora even after both the orbital and palpebral glands have been eliminated. The small percentage of patients who escape tear drop following removal of the sac (or sac plus glands) are individuals with an abnormal hyposecretion of tears.

The results of curettage of a fistula are extremely uncertain. I have cured a number of lacrimal fistulas with the intranasal tear sac operation, which had previously been operated upon several times unsuccessfully from the outside. One patient had indeed undergone 7 external operations by recognized authorities before being cured by the intranasal operation which I am advocating.

The external incision of a phlegmon necessitates painful changes of dressings extending over a period of 10 days to 2 weeks, and in the end often a fistula remains to be curetted as already described. And should the incision close without a fistula remaining, there still exists the disagreeable epiphora and sometimes also a dacryocystitis. In such conditions the sac is usually extirpated, which procedure may remove the suppuration but not the epiphora.

In cases of simple epiphora due to stenosis of the nasal duct there has not been, until the development of the intranasal operation, any satisfactory treatment at all, because removal of the lacrimal glands does not diminish the tearing, and only rarely does probing help such cases.

Briefly, the results of the treatment of dacryostenosis, as it is still carried out in most ophthalmologic clinics, are only partial. With the usual procedures herein described we may cure a suppuration of the sac or we may, in lucky cases, close a fistula; however, in the vast majority of cases the epiphora remains a source of annoyance to the patient, and a reminder to the physician that his case, though relieved, is still by no means completely cured. The experience of most ophthalmologists will, I believe, justify the statements that I am here making.

The cause of the different clinical pictures of dacryostenosis is an obstruction in the nasal duct, and it would be more rational and conservative if we could restore the physiologic drainage from the eye into the nose, avoid an external incision, and leave the lacrimal glands undisturbed. The restoration of the physiologic current in a stenosed passage, either by removing

Read before the Section on Eye, Ear, Nose, and Throat Diseases of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 1, 1940.

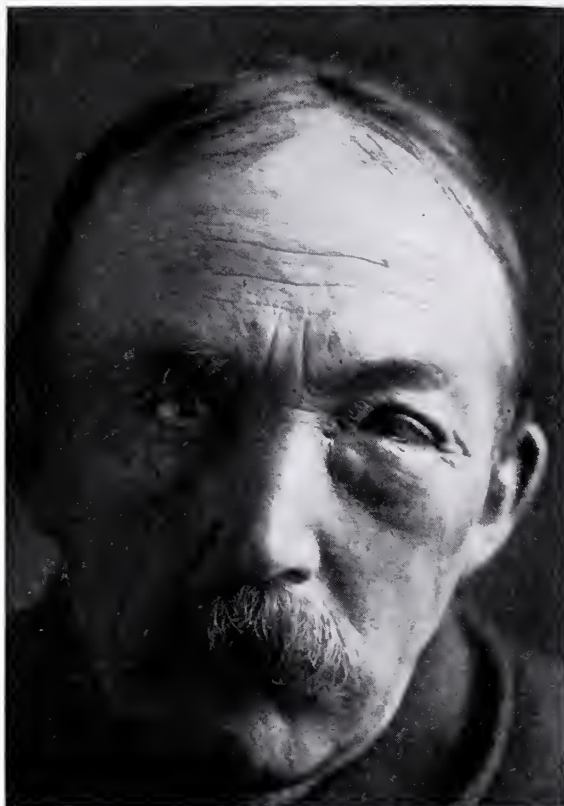


Fig. 1. Phlegmon of sac before operation.

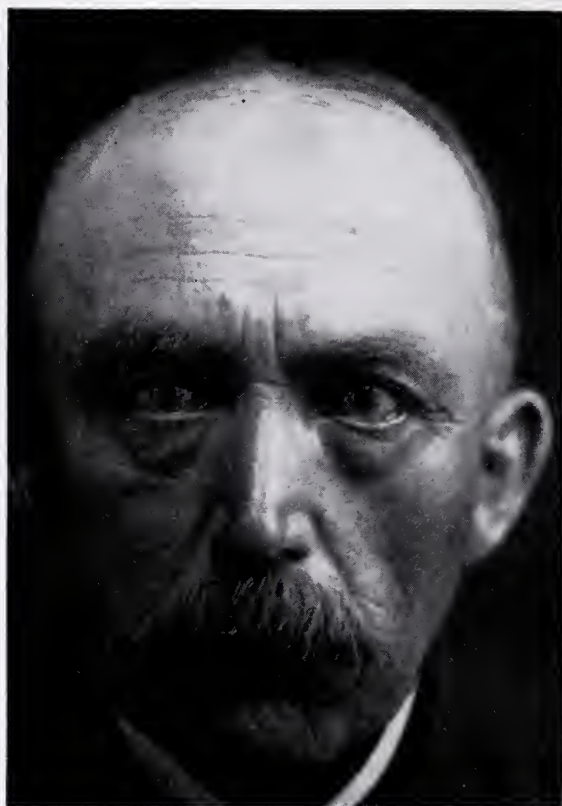


Fig. 2. Same patient as Fig. 1 a week after operation. Nasal drainage re-established.

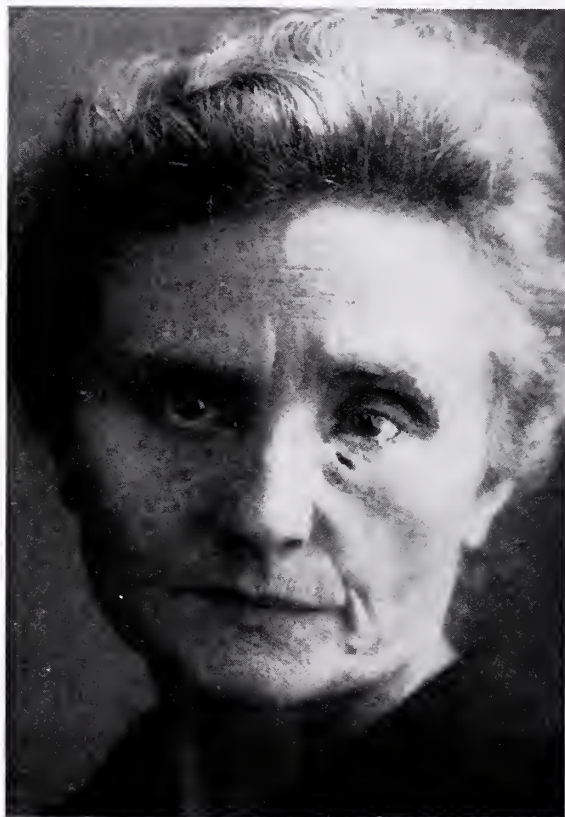


Fig. 3. Lacrimal fistula previous to operation.

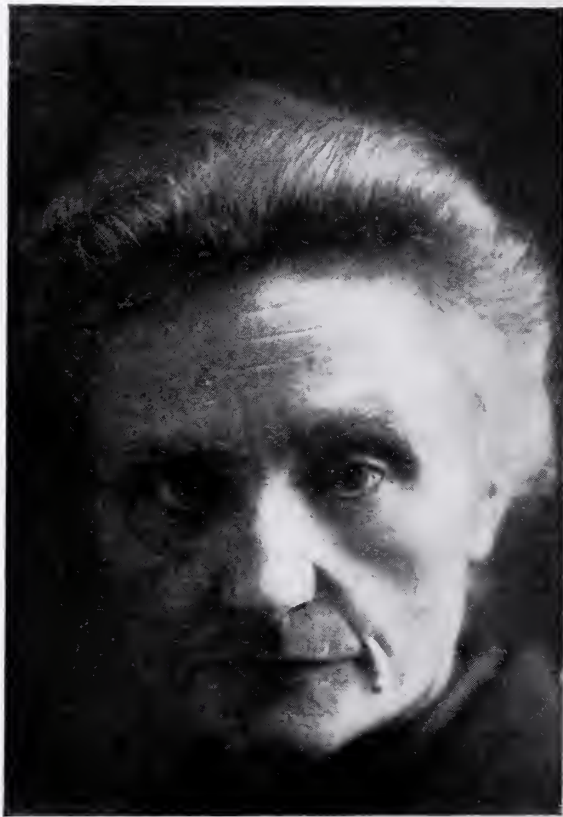


Fig. 4. Same case as Fig. 3 ten days after operation. Nasal drainage restored.

the obstruction or by making an artificial communication of equal physiologic value, is the fundamental idea in the treatment of similar stenoses in the human body, for example, in strictures of the intestine or in the gall passages. Why should this fundamental principle in treatment not be applied to strictures of the nasal duct?

In this paper I will not discuss the external operations (Toti, Lagrange, Dupuy-Dutemps, Mosher, and others) on the lacrimal apparatus, which attempt to restore nasal drainage in cases of closure of the duct. However, aside from the fact that most of the cases of dacryostenosis occur in women and most women dislike having their faces incised, particularly when not necessary, the clinical objection to all external operations is that the skin incision and separation of the parts so alter the anatomic relations (ligamentum internum, canaliculus, and skin) at the inner angle of the eye that, after healing, the chances of re-establishing physiologic drainage are not nearly as favorable as with the intranasal procedure in which these structures are left intact.

As to the intranasal surgery of the lacrimal apparatus, I may state that the experience of my predecessors in this field, Caldwell, 1893 (one case), Passow, 1901 (3 cases), Strazza, 1904 (one case), and Okuneff, 1908 (6 cases), was not extensive enough to develop properly a technical operative procedure or to show definitely that the intranasal treatment of dacryostenosis secures better results than do the usual ophthalmologic methods. Also, all of my predecessors had removed unnecessarily the anterior end of the inferior turbinate as a step in their operations on the lacrimal passage.

Preliminary to a description of the operation as done by the author, a few anatomic remarks may not be amiss.

The lacrimal fossa, containing the lacrimal sac, is formed by the frontal process of the superior maxillary bone anteriorly and by the lacrimal bone posteriorly. The bony structure of the fossa is covered on the nasal side by the mucous membrane of the nose. Hence the sac is separated from the interior of the nose by a partition, which consists of the bony wall of the fossa forming one layer and of the nasal mucous membrane forming a second layer. The principle of the operation consists in removing this separating wall of mucous membrane and bone; thus the lacrimal sac is exposed intranasally.

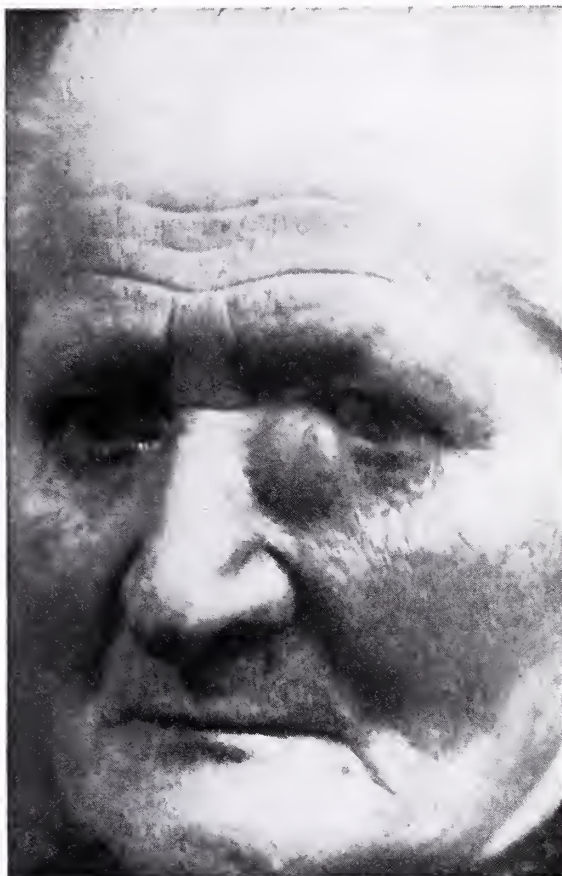


Fig. 5. Unusually large mucocoele of sac before operation, patient aged 66.

Operative Procedure

The operative procedure, a direct *intranasal total extirpation of the tear sac* (intranasal dacryocystectomy), under local anesthesia (cocaine, adrenalin, injections of novocain), may be described as follows:

Three incisions, 2 vertical and one horizontal (high up in the nose), are made with a long straight scalpel through the nasal mucous membrane, and are so placed that with any thin flat separator a large flap of the membrane can be turned aside (not removed) from the region of the lacrimal fossa and hung down over the *inferior turbinate* which is *left intact*. When this flap is properly formed and rolled aside, the lateral bony wall of the nose is laid bare over an area extending from the *apertura piriformis* to the posterior border of the lacrimal fossa. The bony wall of the fossa is now removed with chisels (curved outwards), whereby the sac is freely exposed in the nose. The sac is now grasped with a special toothed forceps, pulled somewhat toward the nasal cavity, and with a long scalpel the *entire sac is excised*. The mu-

cous membrane flap is now returned to its original position, and since it has somewhat contracted, the outlet of the canaliculus is usually not covered. Should the flap extend over the mouth of the canaliculus, a small section of the flap, enough to free the canaliculus, must be removed. A nasal tampon completes the operation. With the *intranasal total extirpation* of the lacrimal sac we have effected a direct communication between the conjunctival sac and the nose, and have established clinically a *conjunctivo-rhinostomy*. It is often very advantageous to do a partial submucous resection of the septum before beginning the sac operation.

Indications for Operation

The intranasal extirpation of the sac is indicated in all the various clinical conditions caused by dacryostenosis, that is, in dacryocystitis with or without dilatation of the sac, in lacrimal fistula, in phlegmonous conditions, in epiphora of nasal duct origin, and also in ulcer serpens with dacryocystitis.

Advantages of the Internal Operation

1. The physiologic function of the lacrimal apparatus is re-established so that not only a dacryocystitis, a lacrimal fistula, or a phlegmon is cured but subsequently the tears drain off into the nose, and the troublesome epiphora, usually following the external extirpation, and often after the external dacryorhinostomy, is avoided.

2. The restoration of drainage from the eye causes the pathogenic bacteria to disappear from the conjunctiva, which is very important when future intrabulbar operations (cataract, etc.) are indicated.

3. The patient is spared the painful, long-continued, and usually unsuccessful probing.

4. Removal of the lacrimal glands to cure the epiphora of dacryostenosis becomes superfluous.

5. An external incision, or curettage, which on healing tends to interfere with the drainage to the nose is avoided.

6. With the internal operation no external bandages are necessary.

Results of the Intranasal Operation

Among my series of more than 2000 intranasal tear sac operations all the possible clinical pictures were repeatedly met with, and all with one exception were performed under local anesthesia. The ages of the patients operated upon ranged from 4 to 74 years, and repeatedly both lacrimal sacs were operated upon in one sitting. The fact that the procedure can be carried out



Fig. 6. Same patient as Fig. 5 a week after operation. Nasal drainage restored.

without a general anesthetic, and not only in adults but also in small children and, moreover, that in my long series of cases there was not one single accident, is a sufficient guarantee that the ophthalmologist can with confidence recommend the operation to his patient. The suppuration is cured in practically every case and nasal drainage (argyrol instilled into the conjunctival sac appears in the nose) is re-established in over 90 per cent of the cases.

With dacryostenosis the results of treatment can be shown on the photographic plate only in cases complicated by phlegmonous inflammation, by dilatation of the sac, or by fistula. But just in such cases, the most difficult to heal, I desire to picture the results of the intranasal lacrimal sac operation on a series of photographs, all of which are from patients of the clinic of Prof. Silex in Berlin.

ABSTRACT OF DISCUSSION

WILLIAM J. HERTZ (Allentown): I have had unusual opportunity to see Dr. West's work. In over 90 per cent of the cases there are no external disfigurements, no external incisions have been made, and the patients have recovered rapidly. I recommend intranasal tear sac surgery for patients with dacryocystitis.

Some of the Important Problems of Adolescence

The Rôle of the Pediatrician in Their Management

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CUSTOM has set an arbitrary upper age limit of 12 years for patients who come under the care of the pediatrician. It is the purpose of this presentation (1) to discuss briefly some of the problems affecting growth and development encountered at or about that age, and (2) to point out the necessity for abandoning this numerical age limit and replacing it with a clinical age period. This will include the numerous disorders affecting growth and development during the transition from childhood to early adult life. An attempt will also be made to show that the problems which occur during puberty and adolescence are often really a continuation of the problems of early childhood, and that puberty is the spark which kindles the minor departures from normal into the enormous conflagrations of adolescence.

The pediatrician should be prepared to study these problems with the aid of the psychologist, the endocrinologist, and the gynecologist. With his full knowledge of the child's complex organism, nutritional difficulties, temperament, heredity, environment, habits, social complications, and adjustment periods, he should be admirably prepared to guide the child through this difficult period of its life. It is only after such an adjustment has been accomplished satisfactorily that this now mature person can be turned over to the internist for further care and guidance in the next clinical age designated as adult life.

Growth and development do not end in the pre-adolescent age. Such aberrations in growth as dwarfism incidental to disorders in nutrition, disorders of the hemopoietic system, congenital lesions of the heart and intestines, congenital or acquired chronic infection, or even those due to obvious endocrine dyscrasias frequently become accentuated during adolescence. Indeed,

they may become linked to such new and additional problems as hypopituitarism or hyperpituitarism, or hypogonadism. Personality and behavior peculiarities may now take on added meaning, so that correct guidance becomes of the utmost importance.

In its struggle for existence the living organism through the ages has learned many forms of adaptive behavior. The pediatrician can help solidify these already established and natural defenses. He is part of the first line of defense and offense against the common enemy of all mankind—disease; and the first battleground is the physical heritage of the child. Others follow, but unfortunately the last battle does not occur when the child reaches age 12.

At one time those interested in preventive medicine held the point of view that individuals who became ill did so because of an inherent tendency toward disease rather than toward health, and that to save such individuals was to weaken the race. The practitioner specializing in pediatrics has never been guilty of this defeatist attitude. He knows that the patterns of emotional and physical behavior laid down from earliest infancy have a direct and all-compelling influence on puberty and adolescence. It is his province to seek out, remedy, modify, and control basic causes which may lead to serious difficulties in the life of his little patients.

Not all cases of retarded growth or dwarfism are due to deranged function of the endocrine glands. The ravages of faulty nutrition and metabolism, congenital syphilis, rickets, scurvy, juvenile tuberculosis, repeated attacks of asthma, renal damage with the resulting picture of renal rickets, all of these are known to the pediatrician as conditions which can cause retardation in growth. To this long list may be added the infantilism occurring in Hirschsprung's and celiac disease, as well as that resulting from congenital heart disease, Banti's disease, and erythroblastic anemia.

Read before the Section on Pediatrics of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 2, 1940.
From the Departments of Pediatrics and Endocrinology of the Jewish Hospital, Philadelphia.

To illustrate, we have in mind an adolescent girl whom we have observed for the past 2 years. Prior to that, and because of her dwarfism, she had received 240 c.c. of growth hormone as well as a large amount of thyroid extract from another physician without results. Her history revealed that since age 5 she had suffered from repeated attacks of bronchial asthma, which had been treated symptomatically. Emphasis had thus been placed on securing growth with little or no attempt to determine the causative factor of the asthma. The growth hormone was discontinued, and in its place was substituted a desensitizing régime, which was moderately successful in reducing the number of attacks of asthma. This patient is now 63 inches tall, which represents a growth of 7 inches in 2 years, weighs 112 pounds, shows excellent development of her secondary sexual characteristics, and has had normal menstrual function for the past 6 months.

Not all cases of endocrine dwarfism are pituitary in origin. Many may be due to hypothyroidism, hypogonadism, hyperadrenalism, diabetes mellitus, and even pineal tumor.

Although some increments in growth have been reported from the use of commercial growth hormones, we are unable to confirm these enthusiastic reports. However, thyroid extract has given some encouraging results, particularly in borderline cases of hypothyroidism. Of equal importance in treatment are such general measures as the maintenance of a full and well-balanced diet, minerals, vitamins, and rest.

About 0.2 per cent of pubescent boys present either a unilateral or bilateral cryptorchidism. Best results are obtained when treatment is completed before age 8. When permitted to go to age 12, or over, considerable atrophy of the undescended testes occurs. Even then it is advisable to try a course of intensive treatment with pregnancy urine hormone. Usually 200 units 3 times weekly, until a total of 7000 to 10,000 units have been given, constitute such a course. If descent has not occurred, then a Thorek operation or one of its modifications is indicated.

Many cases of suspected hypogonadism are in reality instances of delayed puberty which eventually recover spontaneously. A few, however, are true cases and if untreated persist into adult life. The pediatrician who has watched the development of these children can sometimes differentiate 2 groups: (1) adiposogenital dystrophy, characterized by obesity, retarded skeletal development, and faulty maturation of the primary and sexual characteristics, which

responds best to stimulating therapy with anterior pituitary extracts, and (2) primary hypogonadism characterized by underweight and overgrowth of the long bones, which requires replacement therapy. However, it seems advisable to treat all children who show signs of hypogonadism of either type with stimulation therapy for a period of 6 to 12 months before resorting to replacement therapy.

Disturbances of sexual maturity may occur in the forms already described, which in themselves are not difficult to recognize. Occasionally, however, they may appear in masked forms in which the manifest symptoms are those of abnormal menstrual function.

The appearance of menstruation marks an important milestone in development. Its onset, however, is only one of the many signs of transition from childhood to maturity. It may appear as early as 9 years or as late as 16. Judged by itself it is not a criterion of complete maturity, although its timely appearance gives assurance that other less obvious features of puberty are developing normally. Before the cycle is definitely established, there may be considerable irregularity and occasional periods of amenorrhea. Aside from general measures directed at maintenance of good health, no special therapy is necessary.

Menstrual irregularities occur commonly in adiposogenital dystrophy or Fröhlich's syndrome. In addition to the disturbance in menstruation, there is obesity, also retardation in skeletal development. The excess fat finds its distribution about the shoulders, breasts, lower abdomen, hips, and upper thighs. These cases are to be differentiated from the more frequently encountered obese pubescent children exhibiting a generalized distribution of fat with no abnormalities in menstrual function and no retardation in skeletal development. True cases of Fröhlich's syndrome are uncommon and do not respond readily to treatment. Favorable results are more likely to be obtained if one begins therapy at age 13, earlier if suspicious, for the older the child is beyond this age, the less favorable will be the end result. Essentially, treatment can be divided into endocrine measures and general measures. Anterior lobe extracts administered in doses of 2 c.c. 3 times weekly, together with thyroid extract to tolerance, are indicated. Occasionally it is advisable to combine this with pregnancy urine hormone in doses of 200 units for its synergistic effect. In boys, treatment should be continuous, while in girls it is a better plan to treat cyclically corresponding to menstruation. Such general measures as a restricted

diet, limitation of fluid and salt intake, and increased exercise are of major importance. Usually treatment must be continued for 12 to 24 months before the normal pituitary-ovarian-uterine mechanism can be established.

Examination of the pelvic organs in the pubescent girl is frequently omitted—with the result that serious changes are overlooked. Pediatricians must train themselves to make pelvic examinations and to correctly interpret their findings. We have seen a girl, age 10, subjected to an emergency operation because of failure to do a rectal examination. This patient began to menstruate at age 9 and manifested early development of her secondary sexual characteristics. She complained frequently of right lower quadrant abdominal pain, especially after running. During an acute episode she was seen by a surgeon who, without making a rectal examination, diagnosed acute appendicitis and performed an emergency operation. The rewards for his haste were a normal appendix and a cyst the size of a large orange in the right ovary. If it is admitted that this patient would have at some time or other required surgical intervention, it must also be admitted that she was entitled to a diagnosis which would have determined the etiologic factor of her precocity.

The menorrhagia of puberty does not respond readily to treatment with pregnancy urine hormone. Many other hormones have been tried with disappointing results, although thyroid has been effective in some instances. More recently, male sex hormone in doses of 25 mg. every second day for a period of one month has controlled this type of bleeding. Objection to its use has been raised by some because of a tendency to produce signs of masculinization. Occasionally, bleeding may be so severe as to force one to consider low-dose irradiation of the pituitary and ovaries.

The possibility that the menorrhagia may be a manifestation of serious blood dyscrasia should not be overlooked. Recently, we have seen a severe case of menorrhagia occurring in a girl, age 13. Her hemoglobin was 30 per cent, and the erythrocytes numbered 1,500,000. Hysterectomy had been suggested. Further investigation of her past history and more complete blood studies revealed that this patient suffered not from an endocrine dyscrasia, but rather

from thrombocytopenic purpura. Repeated transfusions and splenectomy promptly cleared up the menorrhagia and saved this young patient from irreparable damage.

Does it not behoove the modern pediatrician, therefore, to assume the responsibility for his charges from infancy through adolescence? He knows their every idiosyncrasy, every change in mood and affect, every environmental situation, and thus can correlate all of this knowledge to their best advantage. When we have adopted this point of view, then and then only can it be said truthfully that our younger generation has received proper medical supervision.

Summary

1. Some of the problems affecting the adolescent child are discussed.

2. Recent modes of therapy for these conditions are considered.

3. The pediatrician should not abandon his patients at age 12, but should continue on through adolescence when adult life really begins.

ABSTRACT OF DISCUSSION

WALDO E. NELSON (Philadelphia): When Dr. Goldberg asked me to discuss his paper and then read it to me, I had the feeling that further discussion was unnecessary, since he so clearly makes his point for the need of prolongation of pediatric observation beyond the age of 12 years.

Having just come from a locality where the upper limit of the "pediatric age" has been set at the chronologic level of 15 years and where actually more attention is paid to the developmental age than to the chronologic one, I have had experience in caring for children beyond the age of 12 years. It happens that one of my interests is in diabetic children, and that by some coercion I managed to keep these children in the clinic until they were 18 years of age. I was accused by some of my colleagues of practicing geriatrics but, nevertheless, we have data to show the benefit of such a policy, particularly in relation to their growth and development, and even to a slight extent in the mortality rate.

Actually, what applies to the chronically ill child applies also to the child who is presumably well and who is only occasionally sick, primarily to maintain the child-physician relationship, but also, and very important, because the child is still in the growth period, and because of the psychic and mental factors.

Dr. Goldberg's presentation is timely, and I hope that in Philadelphia and other parts of Pennsylvania a satisfactory adjustment may be made.

The discussion of the endocrine factors can be done more adequately by others. However, Dr. Goldberg is to be commended for the caution and the conservatism that he advises in the therapy of endocrine conditions.



SUBCUTANEOUS UROGRAPHY

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PYELOGRAPHY in infants and young children is often fraught with difficulty. The cystoscopic method involves instrumentation which may be undesirable because of (1) the small size of the urethra, or (2) lack of cooperation of the patient, making the unpleasant procedure impossible unless an anesthetic is used. Because excretion urography is a much less formidable procedure, the intravenous injection of the dye has largely replaced the cystoscopic method in these young patients. There are occasions when this method (intravenous urography), too, may have its drawbacks, the chief of which is inability to insert or keep the needle in the vein. If difficulty is encountered in intravenous urography, or even as a method of first choice, the urographic medium can be introduced subcutaneously or intramuscularly in higher dilutions. Many urologists and radiologists are either unaware of this method of urology or are unfamiliar with the technic and results. It is this unfamiliarity with the method which has prompted this presentation.

This method was described in the American literature as long ago as 1934 by E. Beer and F. H. Theodore, and even earlier in Europe. We believe, therefore, that while subcutaneous urography is not new, it has not received the attention it deserves. The universal principles of subcutaneous (and intramuscular) urography are comparatively simple. Instead of injecting an iodine dye into the blood stream for excretion by the kidneys, the same or a similar type of dye is injected subcutaneously (or intramuscularly).

O. Butzengeiger, dissatisfied with the intravenous method in children, collaborated with Hecht for the development of a dye which could be injected subcutaneously, and in 1931 introduced abrodil. His method consisted of injecting 4 per cent abrodil into the subcutaneous layer of the upper outer quadrant of the breasts with a total of 500 c.c. as the adult dose; he gave one-half of a dose for larger children, one-

fourth dose for small children, and one-fourth or less for nurslings. He exposed films from 30 minutes to 50 minutes after the injection, found the earlier films the better, and reported the method satisfactory.



Fig. 1. (a) and (b) immediately after injection showing suitable site with usual elevation of the skin. Note in (b) that the solution often may spread around lateral chest wall towards the front (arrow). It can readily be seen that the little patient has not been made unhappy by this method of examination. (c) Film made 30 minutes later. (d) One hour after injection—the solution has been almost entirely absorbed.

Other Europeans followed up his work. H. Hillebrand used the same technic and reported that in the case of an infant of 14 months, 100 c.c. had given diagnostic roentgenograms and the subcutaneous infiltration had disappeared in 15 minutes. W. Nissel investigated perabrodil, using it in hypertonic and isotonic solutions. Thus he injected a whole ampule of 30 per cent perabrodil subcutaneously in the axillae, divided into 2 doses; tingling was produced for a few minutes, but no pain; in 2 hours the swelling was half absorbed, and en-



Fig. 2. (a) the solution was injected subcutaneously so low down that it obscured the urinary tract, rendering the examination futile; (b) subsequent intravenous urogram on same patient.

tirely in 24 hours. He came to the conclusion, however, that a dilute solution was more satisfactory; thus he gave $7\frac{1}{2}$ per cent perabrodil into each axilla, shoulder, or breast region, the quantity ranging from 40 to 100 c.c. depending on the age of the child, although he found that a 30 per cent solution had a better dye shadow. He usually applied compression over the ureters 15 minutes after the injection. He found that his best films were obtained at 40 to 70 minutes after the injection. However, to insure a complete study, he made it a practice to expose his first film at 30 minutes, making additional films every 15 or 20 minutes.

Beer and Theodore in New York used 7 per cent skiodan, injecting 50 c.c. into each axilla. They found that it was possible to obtain satisfactory roentgenograms at any time from 30 to 90 minutes after injecting the dye. Their best films were those made at 50 to 60 minutes. They made observations on 10 children and 5 adults and commented on the fact that, because of the low toxicity of the drug, it was possible to give a full adult dose to an infant.

In 1936 F. L. Senger and A. Ruggiero reported their experience with 50 examinations by the subcutaneous method, and concluded that this is a reliable substitute for intravenous urography in children, as well as in adults with poor veins. They found that there were no side effects, and that the kidney pelves and calices were shown just as well as by the intravenous route. Their technic consisted of (1) 2 ounces of castor oil at 4 p. m. the preceding day, (2) an enema at 9 p. m., (3) day of examination, a plain film of the abdomen, followed by subcutaneous injection of skiodan. Fifty c.c. of skiodan, which comes in 40 per cent strength, is diluted with 150 c.c. of saline, making a 10 per cent solution. They injected 200 c.c., then made films at 30, 50, and 60 minutes.

Swick,¹ in discussing urographic problems in children the same year, stated that he had "employed the subcutaneous method with satisfaction."

Richard C. Travis in 1937 reported his observations in 18 cases and found that the method gave as satisfactory results as the intravenous administration of the dye. He used a technic in vogue in the University of Michigan, which has been described by R. M. Nesbit and D. B. Douglas. In preparing the patients, they withheld fluids after 10 p. m. and gave magnesium citrate, the dose depending upon the age. A scout film commenced the roentgen studies and then the injection was made, 20 c.c. of 35 per cent diodrast mixed with 80 c.c. of normal saline, 50 c.c. injected subcutaneously over the angle of each scapula. Subsequent films were made 10, 20, and 30 minutes after the injection. In their cases they observed no ill effects. Visualization was satisfactory even in 4 cases where

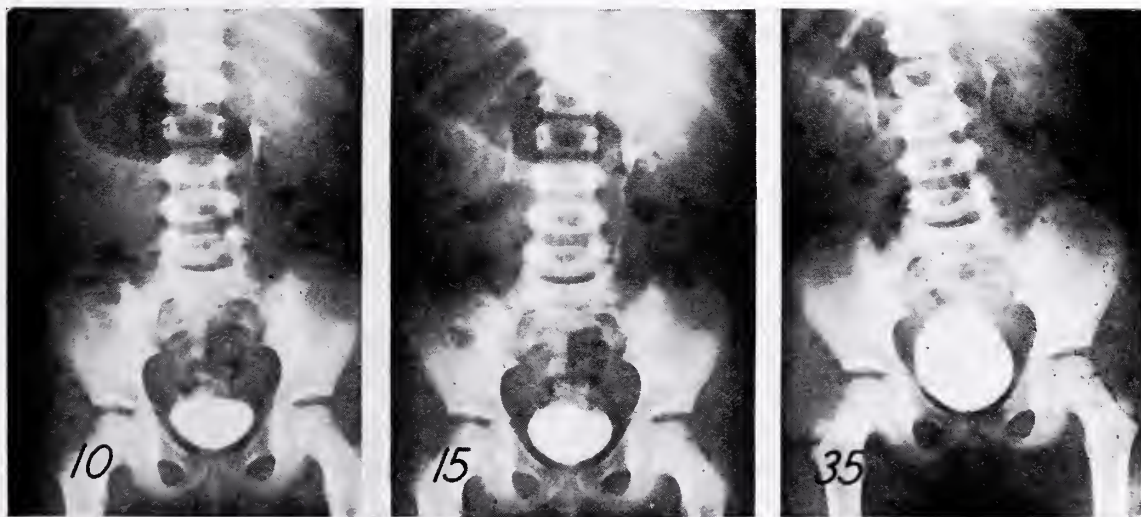


Fig. 3. Typical films obtained by subcutaneous urography 10, 15, and 35 minutes after injection.

the intravenous method had not been. These writers, too, pointed out that by this method it is possible to give a full adult dose of diodrast to infants, which is not possible intravenously.

The intramuscular route has also been used. E. Perman and A. Lichtenstein have used 7½ per cent perabrodil (both subcutaneously and intramuscularly), giving from 20 to 40 c.c. by either route. They stated that it is a prerequisite for a good result to have the child sleep during the procedure in order to obtain effective compression of the ureters. For this purpose, they gave luminal 0.03 to 0.05 Gm. or chloral 0.5 to 1 Gm. They used compression continuously from the time of the injection and obtained good urograms in children as young as 3 months of age.

E. Messeri, of the University of Florence, advocated a simplification of this method in that he omitted the sedatives or hypnotics, and instead of general compression he used a narrow inflated band across the lower abdomen only, which compressed the ureters without increasing the general abdominal tension.

S. Werner has used a sedative routinely, giving 0.1 Gm. of avertin per kilogram of body weight, producing sleep for 2 to 3 hours. He injected 8½ per cent to 10 per cent of uroselectan B into the deltoid muscle or the quadriceps muscle, giving infants 30 to 40 c.c., small children 50 to 60 c.c. He made films at 10, 20, and 30 minutes after injection, using brief compression. In 25 cases he considered the results as satisfactory as intravenous urograms, but with not quite as much contrast as the intravenous urograms. He considered that the intramuscular method should be used as a substitute for the subcutaneous method only when necessary.

P. S. Adams and H. B. Hunt have used diodrast both 17 per cent and 35 per cent in the gluteal region. This technic is given in detail by Hunt and A. M. Popma using 35 per cent diodrast intramuscularly. They make a scout film which is followed by the injection of 10 to 20 c.c. of diodrast in children, 20 to 30 c.c. in adults, using compression over the ureters. Films are made at 10 minutes after the injection and at 35 or 45 minutes. They point out that if

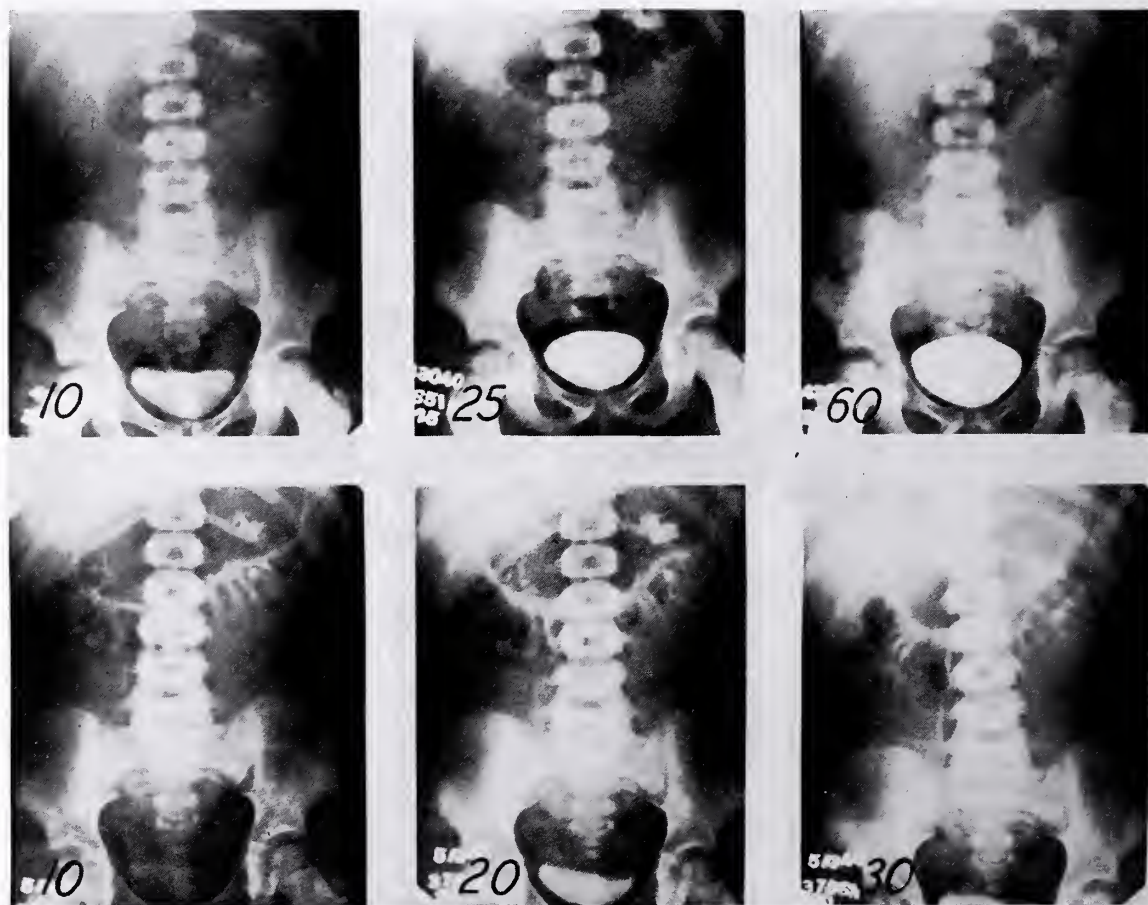


Fig. 4. Comparison of methods. Upper row, intravenous urograms at 10, 25, and 60 minutes; lower row, subcutaneous urograms at 10, 20, and 30 minutes, same patient. Note that visualization, following subcutaneous administration, is fully as satisfactory as that by the intravenous route.

the kidney function is impaired, there is a limitation to this method of examination, that if the phenolsulfonphthalein output is less than 10 per cent in 2 hours, it will not give satisfactory shadows.

In our experience with subcutaneous urography we have encountered no difficulties. Before proceeding with excretory urography, we always test the patient for allergy to iodine, and this is done no matter whether the opaque medium is to be injected intravenously or subcutaneously. We test the patient by having him, if an adult, hold 2 c.c. of the diodrast in the mouth for 10 minutes. If the tongue or mouth become numb, or other symptoms suggesting idiosyncrasy appear, the patient immediately washes out his mouth with water and the examination is not carried out. If no untoward symptoms appear, the diodrast is swallowed, and if all is still well at the end of another 20 minutes, we proceed with the injection. For infants, we use a slightly different procedure, applying it locally to the mucosa of the mouth with an applicator. Our experience has been limited to the use of diodrast. However, other opaque

media which have proved satisfactory are neopax, skioldan, and the drugs used in Europe—uroselectan B, abrodil, and perabrodil.

Fluids should be withheld for 12 to 15 hours before the examination. The skin preparation consists of the local use of iodine followed by alcohol. A small wheal is raised with novocain in the region of the angle of each scapula, a small nick is then made in each area with the point of a scalpel, and 2 hypodermoclysis needles are inserted subcutaneously. The contrast medium, consisting of 80 c.c. of normal saline to which 20 c.c. of 35 per cent diodrast or 40 per cent "diodrast compound" has been added, is run in through these needles, and as soon as this is completed the needles are removed and collodion is applied to the small incisions in the skin. We have not found it necessary to employ sedatives because our patients have not found the procedure unpleasant, as may be inferred from the smile of the patient in Fig. 1. A lollipop is often useful in diverting children's attention and in keeping their mouths occupied.

Customarily, we make a plain or scout film of the urinary tract before commencing the injection.

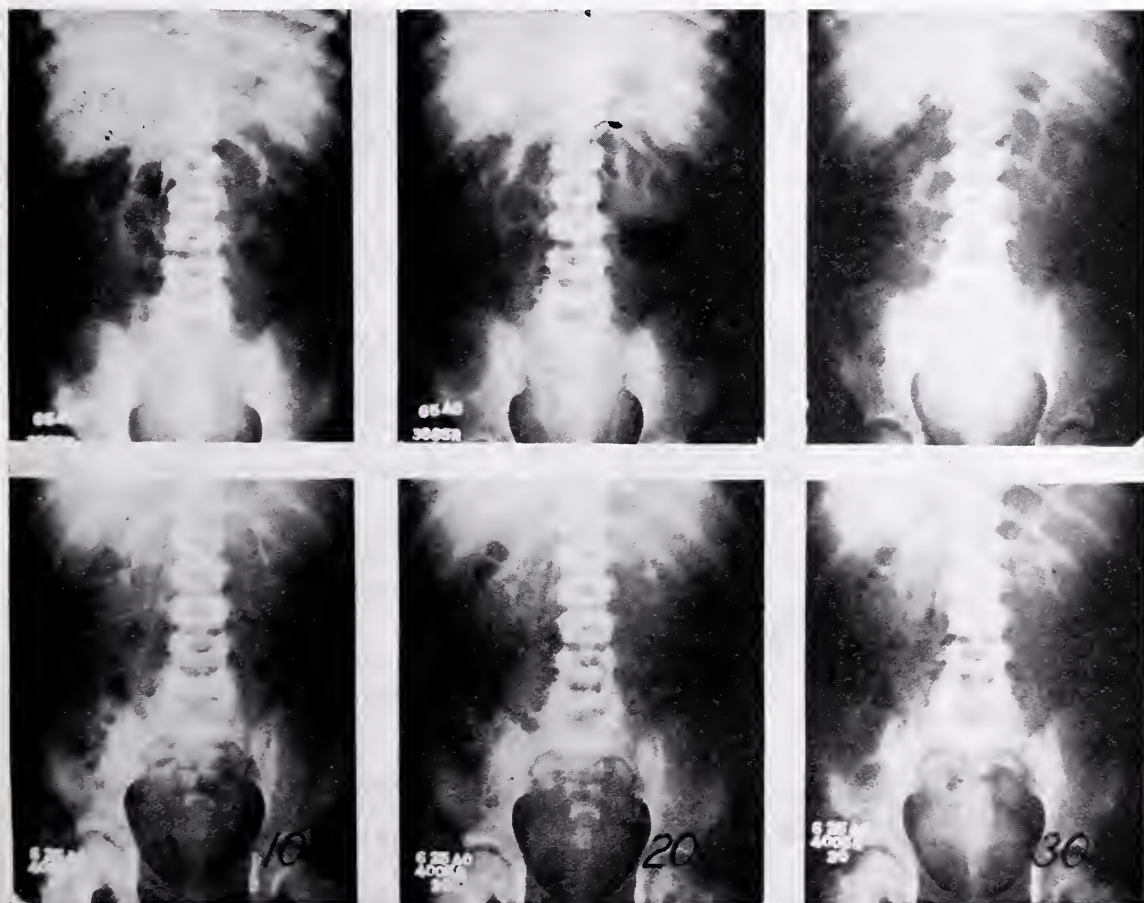


Fig. 5. Upper row, intravenous urograms with poor concentration; lower row, subcutaneous urograms with slightly better visualization.

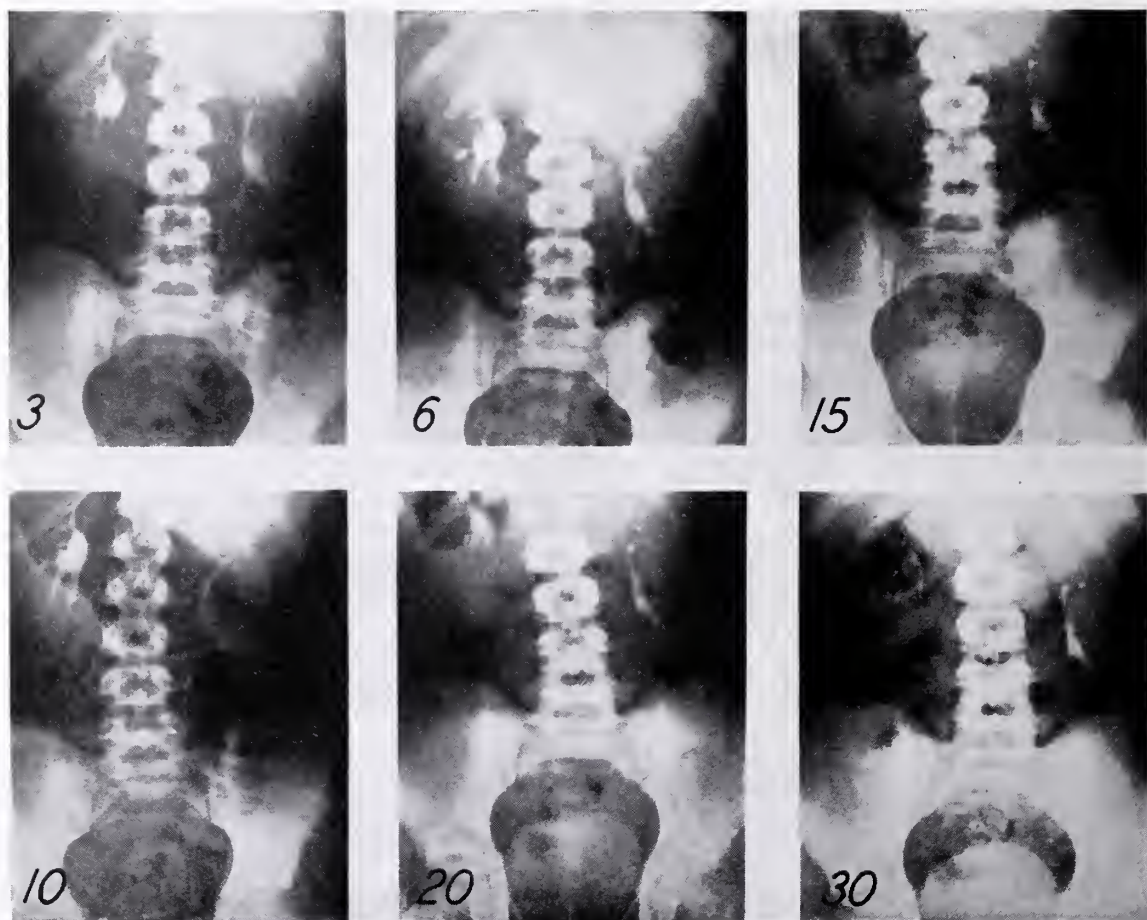


Fig. 6. Upper row, intravenous urograms; lower row, subcutaneous urograms. Visualization essentially the same by both methods.

tion. We do not have a set routine for taking the subsequent films; they are developed as soon as exposed, furnishing a guide for further exposures. Usually, though, we have taken films at 5-minute intervals following the injection of the dye until 2 or 3 films are taken, and then we have exposed them at 10-minute intervals, finishing the examination at about 50 minutes after the completion of the injection. It has not been our custom to use ureteral compression.

Certain precautions must be observed:

1. Idiosyncrasy to iodine has already been mentioned. This is important because deaths during intravenous urography have been reported from this cause (L. P. Dolan).

2. In injecting the opaque material into the infrascapular region, care must be taken that it does not overlap the level of the kidneys. Failure to observe this may result in the subcutaneous collection of dye obscuring the kidneys, pelves, and calices (Fig. 2).

3. If the patient has already received a number of clyses for other purposes, the rate of

absorption of the subcutaneous tissues is less than it would be in an individual who had not had such previous injections. If another subcutaneous site is selected, this difficulty will not be encountered, or the dye may be given intramuscularly.

4. Contraindications to intravenous administration of the dye, such as markedly impaired kidney function, are also contraindications to this method.

Efficiency of the Method

As compared with the retrograde method of examination, subcutaneous urography does not produce quite such dense shadows nor as satisfactory visualization of the urinary tract. However, intravenous urography is similarly slightly inferior to retrograde. It is as an alternative to the intravenous method that we must consider the subcutaneous route. We are in agreement with those who have already reported their experiences. We have found that the shadows of kidney pelves and calices, as well as ureters,

have been in practically all cases fully as satisfactory as those obtained by the intravenous administration of the dye. Gas shadows have occurred no more and no less frequently, and roentgenograms of diagnostic quality have been obtained consistently. In short, the method has been satisfactory.

Summary

1. Excretory urography by subcutaneous or intramuscular administration of a diluted preparation of the usual opaque media has been used in Europe since 1931 and in this country since

1934. Nevertheless, the method is still relatively unknown here.

2. It is a satisfactory substitute for intravenous urography.

3. It is indicated in adults with small veins, and in children.

4. The technic is described.

NOTE: The discussion of the papers by Drs. Vastine and Sampson and Dr. David M. Davis follows Dr. Davis' paper.

REFERENCE

1. SWICK, M.: Intravenous Urography in Children. *Radiology*, 26: 539-542, 1936.

COUNCIL-ACCEPTED PRODUCTS

The Council on Pharmacy and Chemistry of the American Medical Association recently announced that it had accepted the following products:

Abbott Laboratories

- Capsules Quinidine Sulfate 0.2 Gm. (3 grains)
- Sodium Citrate 3% W/V Solution-Abbott

Drug Products Co., Inc.

- Ampuls (Hyposols) Caffeine with Sodium Benzoate, N.F., $7\frac{1}{2}$ grains, 2 c.c.
- Ampuls (Hyposols) of Camphor in Oil, N.F., 0.195 Gm. (3 grains), 1 c.c.

Endo Products, Inc.

- Tablets Aminophylline, 0.1 Gm. ($1\frac{1}{2}$ grains)
- Ampule Solution Aminophylline 0.48 Gm., 2 c.c.
- Ampule Solution Aminophylline 0.24 Gm., 10 c.c.
- Ampules of Physiologic Solution of Sodium Chloride, 10 c.c.
- Ampules of Physiologic Solution of Sodium Chloride, 20 c.c.
- Ampules of Physiologic Solution of Sodium Chloride, 50 c.c.
- Ampules Solution Sodium Morrhuate 5% with Benzyl Alcohol 2%, 2 c.c.
- Ampules Solution Sodium Morrhuate 2% with Benzyl Alcohol 2%, 5 c.c.
- Solution Sodium Morrhuate 5% with Benzyl Alcohol 2%, 25 c.c. Bottles

Lakeside Laboratories, Inc.

- Ampules Phenobarbital Sodium, 0.13 Gm. (2 grains)

Mallinckrodt Chemical Works, Inc.

- Quinidine Sulfate, U.S.P.

The Wm. S. Merrell Company

- Ascorbic Acid Tablets-Merrell, 25 mg.
- Ampul Solution Procaine Hydrochloride 1%, 1 c.c.
- Ampul Solution Procaine Hydrochloride 1%, 10 c.c.
- Ampul Solution Procaine Hydrochloride 2%, 1 c.c.
- Ampul Solution Procaine Hydrochloride 2%, 10 c.c.

National Drug Company

- Tablets Ascorbic Acid, 25 mg.

Sharp & Dohme, Inc.

- Sulfapyridine
- Tablets Sulfapyridine, 0.5 Gm. (7.7 grains)

"Lyovac" Tetanus Antitoxin (Bovine)

Allergenic Extracts-Mulford (for treatment), (Aniseed, Allspice, Anchovy, Butterfish, Cashew Nut, Castor Bean, Catfish, Chicory, Currant, Caraway Seed, Date, Gelatin (Cattle), Hazelnut, Hops, Horse-Radish, Lime, Mace, Pike, Pimento, Poppy Seed, Porgy, Quince, Sage, Sardine, Tapioca, Thyme, Weakfish, Whitefish, Feathers Mixed (Chicken, Duck, and Goose), Pigeon Feathers, Rat Hair, Turkey Feathers)

The Smith-Dorsey Co.

- Tablets Magnesium Trisilicate, 0.324 Gm. (5 grains)

The Upjohn Company

- Tablets Ascorbic Acid, 15 mg.
- Tablets Ascorbic Acid, 25 mg.
- Tablets Ascorbic Acid, 50 mg.
- Tablets Ascorbic Acid, 100 mg.
- Tablets Nicotinic Acid, 20 mg.
- Tablets Nicotinic Acid, 50 mg.
- Tablets Nicotinic Acid, 100 mg.

Werner Drug & Chemical Co.

- Eucatropine Hydrochloride

The following products have been accepted for inclusion in the List of Articles and Brands Accepted by the Council But Not Described in N.N.R. (New and Nonofficial Remedies, 1940, p. 560):

Endo Products, Inc.

- Ampules Magnesium Sulfate 10%, 5 c.c.
- Ampules Magnesium Sulfate 10%, 20 c.c.

Sharp & Dohme, Inc.

- Allergenic Extracts for Diagnosis-Mulford

In a 10-year tuberculin-testing program in rural and town schools in 4 counties in Minnesota the percentage of reactors has fallen from 14.1 per cent to 6.75 per cent. The decrease is attributed to a careful follow-up of all positive reactors, with an intensive search for the source of the infection. Contact with open cases of tuberculosis was broken by hospitalization of the case or placing the children in a home free from tuberculosis. All teachers and school personnel were included in the plan.

The Shortcomings of Intravenous Urography

DAVID M. DAVIS, M.D.
Philadelphia, Pa.

IT MIGHT possibly be inferred from the title of this paper that the author disapproves of intravenous urography and wishes to decry it. Nothing could be further from the truth. I am keenly appreciative of the tremendous value of intravenous urography in urologic diagnosis, and feel that the discoverer of this method conferred a great benefit on mankind.

I believe, however, that some of the devotees of intravenous urography, led astray by enthusiasm, have overshot the mark, have read into intravenous urograms many things which are not there, and so have done the method more harm than was ever done it by its enemies. It is my desire to make an argument in favor of cool, clean-cut objectivity in the reading of intravenous urograms. In order to attain this ideal, and granting the many advantages of intravenous urography, we must attempt seriously to become completely familiar with all its defects and shortcomings. I would like to study and discuss some of these shortcomings as illustrated by actual cases, and to try to show that there are certain fairly definite groups or classes of shortcomings. I present certain instances where the intravenous urogram simply failed to give any information, but am less concerned about these than with those where the inferences drawn were actually misleading and brought about errors in diagnosis.

The first panel of Fig. 1 is an intravenous urogram which shows both pelves quite well. Both are obviously hydronephrotic, the left more than the right. The conformation of each pelvis suggests that there is obstruction at the ureteropelvic junction. The left ureter is not shown. The right ureter is shown in part, and where shown appears to be normal. On the whole, one would say that this is a satisfying urogram, giving positive information and adequately explaining the pain and persistent infection from which this patient suffered. Retrograde urography (the second and third panels of Fig. 1) shows the same general picture, but adds 3 important

pieces of information not obtainable in any way from the intravenous pictures: (1) Both pelves are larger than was shown in the intravenous films, that is, the degree of bilateral hydronephrotic destruction of renal parenchyma is greater. (2) The right hydronephrosis is actually greater than the left, particularly as concerns the minor calices and infundibula, which are the most important points to consider. (3) The left ureter appears to be normal, but the right ureter is outstandingly wider than the left, and obviously the seat of a well-marked ureterectasis, which must be due to an obstruction at the lower end of the ureter. The experienced urologist realizes from this picture that the extent and importance of the ureteropelvic obstruction on the right cannot be accurately evaluated until after the lower ureteral obstruction is overcome. There is also positive proof in this film that the trouble on the left side is due to ureteropelvic obstruction, and to nothing else.

In all cases of hydronephrosis the obstruction must be at some point in the course of the ureter. For this reason, it is correct to say that if the existence of a hydronephrosis is known, exact delineation of the ureter is more important in diagnosis than that of the pelvis itself. Intravenous urography, as shown in the first 2 films, is less reliable for the ureter than for the pelvis.

The second case (Fig. 2) is a striking example of the fact that in the presence of complete urinary obstruction intravenous urography is powerless to tell us anything about the morphology of the kidney or the extent of the damage to the renal parenchyma. The first film is from an intravenous urogram, and shows a large stone in the general region of the ureteropelvic junction, but nothing else. Pictures of this sort are sometimes mistakenly interpreted as indicating total destruction of the kidney. The second panel shows a retrograde pyelo-ureterogram, which discloses very accurately the degree of hydronephrosis present. The third panel, an intravenous urogram taken after removal of the stone, proves that renal function is abundantly present, and suggests that the pelvis is returning

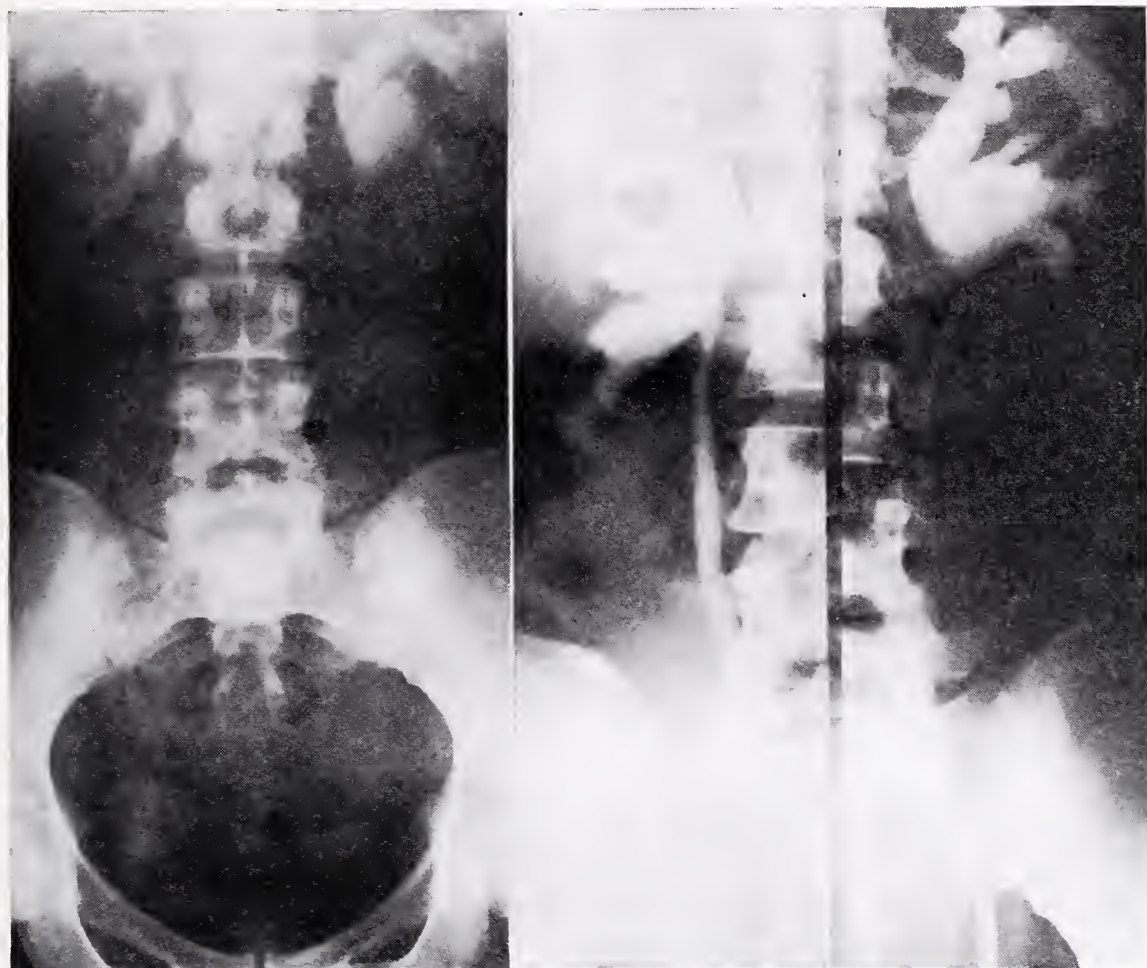


Fig. 1. Case 1. Left panel, intravenous urogram, right ureter about normal, left pelvis larger than right. Center and right panels, retrograde pyelo-ureterograms. Right ureter definitely dilated, left ureter normal, right pelvis larger than left.

to its normal size. We cannot be sure of this latter point, however, as will be shown later.

In the third case there was the usual syndrome of pain in the right side with infected urine. The 15-minute and 60-minute films of an intravenous urogram are shown in Fig. 3, first and second panels. Here again delineation is poor, although better than in the last case. We can at least say definitely that there is some degree of hydronephrosis, and might be excused for guessing, on the basis of the 60-minute film, that the obstruction was at or near the ureteropelvic junction. In fact, this urogram was so interpreted by a very competent roentgenologist. The third panel of Fig. 3 shows the retrograde pyelo-ureterogram. It is obvious from these pictures that dilated kidneys are by no means always filled to capacity under natural conditions, and this is the reason intravenous urography is not reliable as an index of the degree of hydronephrotic renal destruction. In addition, the retrograde picture gives the exact loca-

tion of the obstruction; namely, just opposite the middle of the wing of the sacrum.

Case 4 is probably the most dramatic and impressive demonstration of failure of the intravenous urogram to show hydronephrosis. The patient, a male, complained of recurrent attacks of severe pain in the left kidney region. Examination of the urine from this kidney showed it infected with bacilli and cocci. The first panel of Fig. 4 shows a retrograde pyelogram taken June 6, 1935. During the next 4 years the ureter was catheterized and dilated several times, but the symptoms and signs persisted unchanged. Several intravenous urograms were taken, the best of which is seen in the second panel of Fig. 4. All the other films were similar. On the basis of these films, it was thought to be certain that the pelvis had recontracted practically to normal. Why, then, did the symptoms persist unchanged? Becoming skeptical, on Dec. 2, 1939, I made the retrograde urogram seen in the third panel. It cannot be distin-

guished from the picture made 4½ years previously. The function of the kidney is greatly diminished, the infection persists, and it is now obvious that nephrectomy is the only practicable treatment. In this case intravenous urography led to serious misconception and to delay for a period of years in the application of the proper treatment.

The tendency to a lack of complete delineation in intravenous urograms is a very serious handicap in the diagnosis of renal neoplasms. Case 5 is an illustration of this. In Fig. 5, an intravenous urogram, the left pelvis is shown so poorly that no positive conclusion can be drawn. Fig. 6, a retrograde urogram, shows a very typical neoplastic deformity. It also tells us that the right kidney and ureter are definitely dilated to a degree that might result in diminished function. Intravenous urography is often used when renal tumor is suspected, but is practically always a waste of time, energy, and money. Certainly no one would think of making a positive diagnosis of renal tumor or of ruling out renal tumor on the basis of intravenous urography alone.

Case 6, the last case to be considered, is an unusual one. Here again the patient was a middle-aged male physician. He complained of pain, gradual in onset, in the right kidney. The urine was clear and uninfected. A plain roentgenogram showed a round collection of scores of tiny stone shadows in the right kidney region. This is seen in the first panel of Fig. 7, which is the best film from an intravenous urography. Only 2 or 3 isolated minor calices can be seen, and it is impossible to gain any idea of the relation of the mass of stones to the kidney pelvis or parenchyma. The second panel, a retrograde urogram, shows clearly that the stones lie in a cavity connecting by a small channel with the pelvis, and furthermore that the pelvis and ureter are otherwise essentially normal. Operation revealed the stones lying in a thin-walled cyst embedded in the parenchyma. It was easily emptied and obliterated without removing the kidney.

The claim has been made that intravenous urography is better than retrograde urography because it shows the urinary tract physiologically, or in a natural state, since the structures are out-

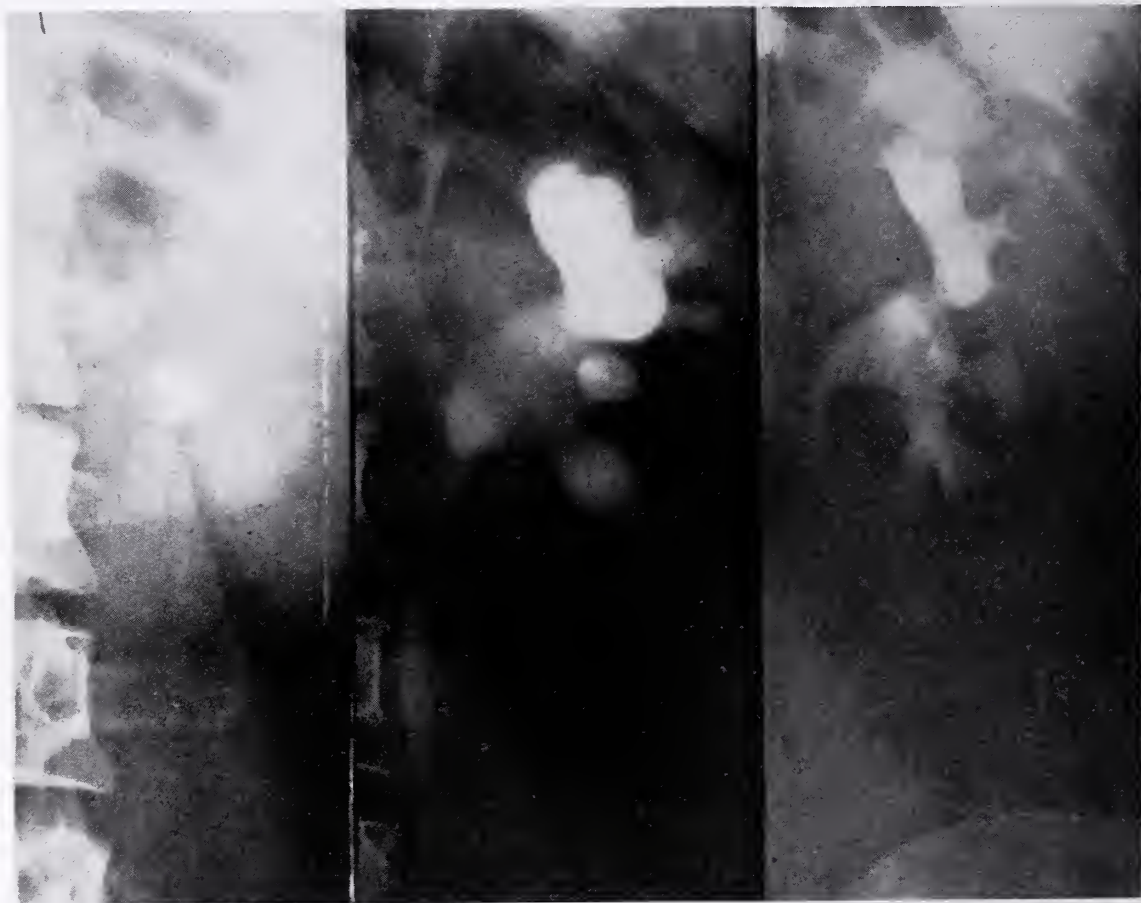


Fig. 2. Case 2. Left panel, intravenous urogram before removal of stone; center panel retrograde pyelo-ureterogram before removal of stone; right panel, intravenous urogram after removal of stone.

lined by masses of urine in the process of secretion and expulsion. There is little reason to doubt that this is the case, but it is obvious, just from this small collection of exhibits, that pictures taken by this physiologic method are often not sufficient for accurate diagnosis. We may specify the ways in which they may be misleading as follows:

1. An essentially normal pelvis may show very poor filling.

2. A hydronephrotic pelvis may appear normal, as in Fig. 4.

3. Of 2 hydronephrotic pelvises, the one which is really the larger may appear to be the smaller, as in Fig. 1.

4. A hydronephrotic pelvis may show very poor filling, as in Fig. 3. Such pictures should be discarded, as efforts to interpret them often lead to very crass errors.

5. Cavities connected with the urinary tract, but with no secreting elements, may not show in the intravenous urogram, as in Fig. 7.

6. Complete block of the ureter prevents any delineation at all by intravenous urography, whether it be of recent origin or of long standing, as shown in Fig. 2.

7. Striking anatomic changes resulting from treatment may be clearly shown by retrograde pyelography, yet the intravenous urograms may appear much the same at the end as at the beginning.

8. A normal ureter may not show at all, as in Fig. 1.

9. A dilated ureter may appear as normal, as in Fig. 1.

If these statements are studied carefully, it will be seen, first, that it is really impossible ever to be quite certain, from an intravenous

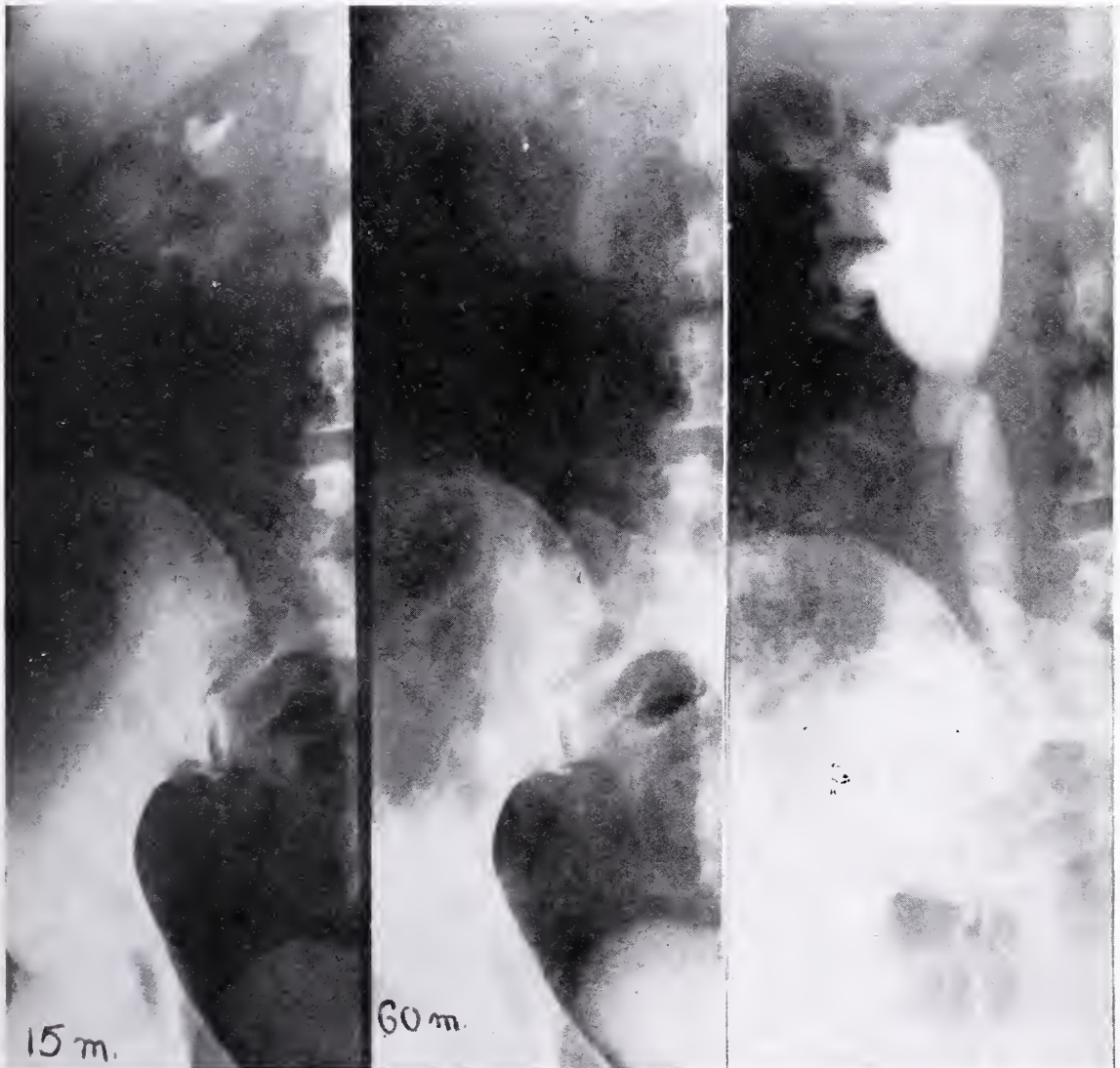


Fig. 3. Case 3. Left and center panels, 15-minute and 60-minute films of intravenous urograms; right panel, retrograde pyelo-ureterogram. Note how clearly point of obstruction is shown.

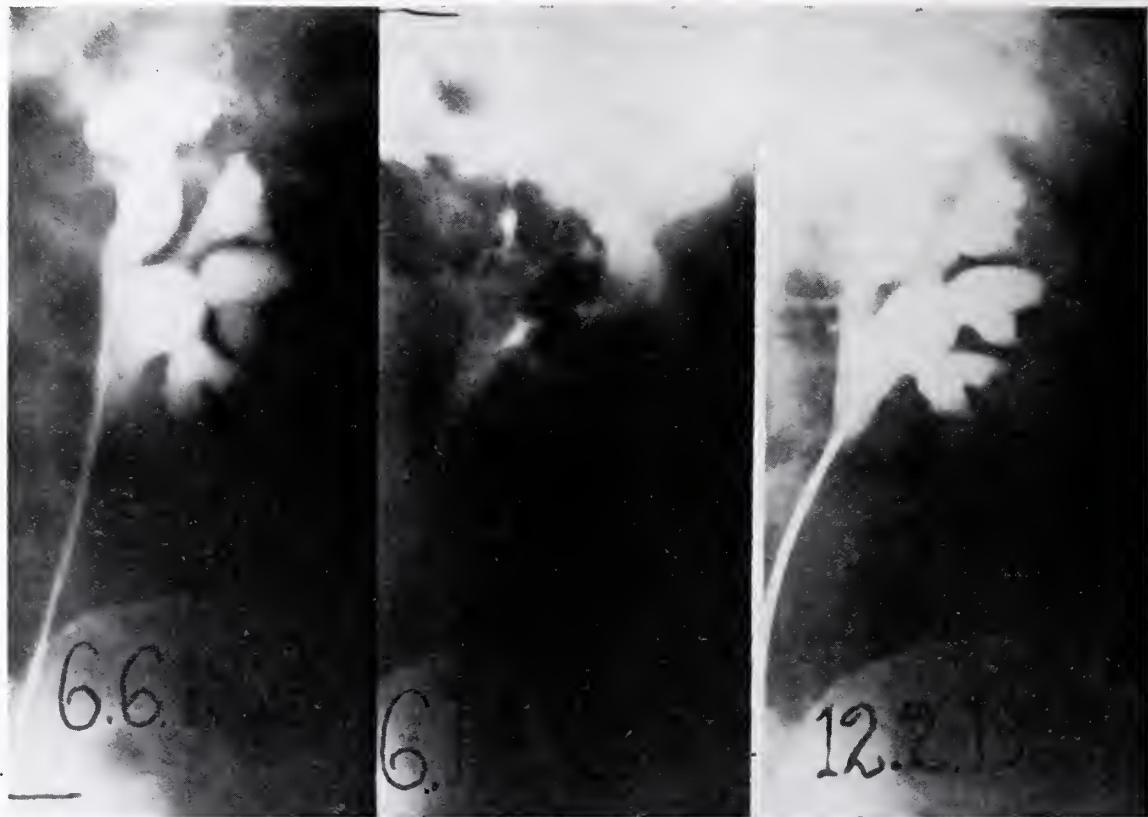


Fig. 4. Case 4. Left panel, left retrograde pyelogram, June 6, 1935; center panel, left intravenous urogram, June 19, 1939; right panel, left retrograde pyelogram, Dec. 2, 1939.

urogram, that the urinary tract in question is normal; and, second, if a diseased condition is disclosed by intravenous urography, the full extent of the damage may not be shown. These constitute serious shortcomings, and they definitely circumscribe the usefulness of intravenous urography; yet, if they are kept firmly in mind, we will be aided in drawing correct conclusions and thereby in obtaining more accurate and useful information from intravenous urography.

ABSTRACT OF DISCUSSION

JOSEPH C. BIRDSALL (Philadelphia): Dr. Davis' slides show very definitely the superiority of retrograde pyelography, as it portrays more accurately the complete extent of the caliectasis, hydronephrosis, and pathology in his series of cases. The limitations of intravenous urography have also been noted by many urologists and particularly have they been admirably pointed out by Thomas D. Moore, who subjected 150 cases to excretory urography and found, by cystoscopy and retrograde pyelography in 43 cases, pathologic conditions which the urogram had completely failed to disclose. I wish, however, to supplement Dr. Davis in his assertion that it is not our wish to decry intravenous urography, as it has a very definite place in the diagnosis of many urologic lesions. The whole history of visualization of the urinary tract has been extremely interesting and instructive.

The first medical application of the roentgen ray was in the field of urology for the diagnosis of calculus in

the urinary tract. Since then, in no branch of medicine has roentgenography been more greatly amplified and developed in the diagnosis of diseases and anomalies than in the genito-urinary system. Roentgenographic diagnosis of urologic lesions was made possible by means of the development of a nonirritative and nontoxic medium, which is an absolute necessity in any complete urologic investigation.

For many years the only method of visualization of the upper urinary tract at our command was by means of cystoscopy, ureteral catheterization, and roentgenraying of the ureter and renal pelvis after these struc-



Fig. 5. Case 5. Intravenous urogram. Note normal appearing right pelvis and upper ureter.



Fig. 6. Case 5. Retrograde pyelo-ureterogram, composite. Note right hydronephrosis and hydro-ureter, left renal neoplasm.

tures were filled with a contrast substance injected through the ureteral catheter.

The introduction of intravenous or excretory urography and its application to the field of urology is an outstanding milestone in the perfection of diagnosis of lesions of the urinary tract. Each method has its advantages and disadvantages, and while excretory urography has many merits to commend its use, it has not displaced the older method of cystoscopy, ureteral catheterization, and retrograde pyelography as a diagnostic procedure.

Retrograde pyelography is a definite and exact method of visualization of the anatomicopathologic condition of the kidney under consideration, while excretory urography is essentially a physiologic procedure as it depends upon the excretion of the opaque medium, and where kidney function is impaired, the intravenous method is misleading. Consequently, the retrograde method gives a definite picture of the pathology present.

Retrograde pyelography is a more formidable procedure, and acute illness, severe cardiac disease, urethral and ureteral obstructions, and extreme vesical irritability are contraindications to its use. Excretory urography also is contraindicated in severe renal impairment, poor hepatic function, and in cases of iodine idiosyncrasy.

The supplemental use of retrograde pyelography and excretory urography will often give a more complete picture or visualization, and these 2 methods should be used with this end in view rather than have them compete for superiority or pre-eminence.

WILLIAM H. SCHMIDT (Philadelphia): Drs. Vastine and Sampson are to be commended for calling our attention to this valuable aid in roentgen examination of

the kidneys, especially in children. While the method has been mentioned before, it is so seldom we see such cases in a general hospital that we are apt to dismiss the possible use of urography in children due to its difficulties. This method has overcome the difficulties and there should be no hesitancy in availing ourselves of the valuable aid it may offer.

Most of us have had the experience of having the needle slip out of the vein, and the consequent injection of the concentrated solution into the tissue results in considerable pain and sometimes a badly swollen arm. The fact that the solution in greater dilution can be used without producing untoward symptoms is not so generally known. When urography is indicated in young children, it is usually in obscure conditions where much help can be given by the examination. The technic as described by Drs. Vastine and Sampson simplifies the procedure so that its use is justified even in the milder cases.

While an experienced physician usually has little difficulty in finding veins in an adult, it occasionally happens that great difficulty may be experienced due to a fat arm or small veins or in cases in which the veins have been mutilated due to frequent intravenous injections or ligation of the veins. In such cases the subcutaneous technic would be better than prolonged attempts to enter a vein.

Another important note in this paper is the precaution taken to prevent injection of the drug in susceptible patients. Considering the frequency with which the drug is used, it is surprising that there have not been more frequent accidents. Iodine idiosyncrasies are probably infrequent; but when they do occur, they are usually very serious and a fatal result can occur quite quickly. Under the circumstances this precaution is not only advisable but is excellent judgment.

This paper is very timely and will serve to acquaint the roentgenologist and urologist with a technic that makes possible a more frequent use of a valuable diagnostic procedure.

Dr. Davis has illustrated very vividly the shortcomings of intravenous urography. If urography was employed only by the urologist, the paper would not be so important; but when the results are interpreted by the average general surgeon, he is too apt to accept the evidence as being final and the result is a needless operation or serious pathology overlooked.

We must realize that a urogram is only a shadow of the dye that remains in the urinary tract at the time the roentgen ray is taken, and if the flow is free, the full outline of the pelvis and calices may not be shown fully.

There are several things that a roentgenologist may do to make the results more accurate. First, the patient must have proper preparation for the examination. The intestinal tract must be thoroughly cleaned, especially of gas. Second, there should be an adequate amount of dye used so that concentration will be sufficient. Third, there should be maintenance of pressure on the abdomen to obstruct the ureter and thus distend the pelvis of the kidneys. Fourth, a lateral view will frequently aid in revealing pathology that might otherwise be missed. A film taken in the standing position may also be of assistance in certain cases.

Every experienced roentgenologist realizes the shortcoming so clearly demonstrated by Dr. Davis and, if there is the slightest suspicion of pathology that is not entirely clear, will recommend in his report the further study by retrograde pyelogram. Unfortunately, the



Fig. 7. Case 6. Left panel, right intravenous urogram. Note large round collection of small stones in right kidney region. Only 2 or 3 calices are shown. Right panel, right retrograde pyelogram. Cyst containing stones communicates with pelvis.

advice is not always accepted and before you know it the patient has been operated upon. It is not always possible to control the situation in this respect.

The third case shown by Dr. Davis deserves special emphasis. Where a kidney fails to fill, a diagnosis of total destruction should never be made without a retrograde pyelogram, because with impaired function the intravenous method may be misleading.

The intravenous method has its indications and advantages. The technic is simple and it can be used in cases where the retrograde method is impossible. It gives a picture of both kidneys, it is a serial study, and it is invaluable in obscure abdominal conditions and in the differentiation of abdominal masses.

When used with reason, it is one of the most valuable diagnostic procedures we have in urology; but when used by inexperienced men who do not appreciate its limitations and draw inaccurate conclusions, it may be a very unreliable procedure. As always in medicine, the personal factor is most important and the roentgen study can only be regarded as a part of the diagnostic study.

LEON HERMAN (Philadelphia): It has been my experience that the greatest disadvantage of intravenous

urography lies in the fact that patients with urologic conditions are referred by general practitioners to roentgenologists who are inclined to give either negative or positive opinions on insufficient evidence. The result is that renal diagnoses are frequently missed, or negative opinions are given in the presence of early lesions, especially malignancy and tuberculosis. There are few circumstances in which intravenous urography is superior to the retrograde method in diagnosis. This is true of cases in which simple cysts or neoplasms cause pressure defects, especially on the true pelvis, which are recognizable in intravenous urograms, but are obliterated through overdistention with the retrograde technic. There is no doubt whatsoever that intravenous urography is an enormously important adjunct in renal diagnosis, but it remains an adjunct and should be interpreted in the light of complete urologic study.

DR. DAVIS (in closing): Dr. Herman's remarks taken in conjunction with those of Dr. Schmidt cover the situation fully. Intravenous urography must usually be supplemented by the other means of study. My paper was not upon the *advantages* of intravenous urography nor upon the *disadvantages* of retrograde pyelography. I could write extensive papers on those subjects too.

EDITORIALS

A SOVEREIGN PRIMARY OBJECTIVE

On the opening program of the highly successful 3-day Health Institute primarily sponsored, planned, and administered last month in Harrisburg by the Pennsylvania Department of Health there appeared representative speakers from federal and state departments and from The Medical Society of the State of Pennsylvania. Remembering that the term "medical service" is often used generically in such discussions to include dental, pharmaceutical, and nursing service as related to "public health," it was inspiring to note the unanimity with which the various speakers centered the specific purpose of their own organizations on the improvement of the health, comfort, and happiness of all the people.

Through definite maintenance of this common determination to strive toward the realization of a goal attainable only through unselfish service lies the source of co-ordination of the secondary purposes which may "crop out" at times in their varying administrative processes. The way may be long and some of the days appear dreary. However, in the yet far distant climax to mankind's struggle to improve mankind's "health, comfort, and happiness" the desired happy ending will be hastened proportionately only as health authorities, professional service purveyors—public and private—the varying avenues of instruction, and the objects of all these good intentions, i. e., "the peepul," will serve and serve and serve, and in turn accept and continue to serve others.

The possible results from a consistent service spread to and accepted by its ultimate consumer are well illustrated in a recent bulletin from the Commission for the Study of Pneumonia Control of The Medical Society of the State of Pennsylvania, from which we quote:

A new day has arrived in the field of medicine in Pennsylvania. At no time have more cordial relations and mutual respect been present than exist at the present time with health officials and physicians in practice, neither distrustful of the other, working hand in hand.

We are making great strides in the Keystone State, but a tremendous amount of important work is yet to be done if the people of our Commonwealth and the Nation are eventually to receive the best quality of medical care. . . .

The medical profession in Pennsylvania has taken official cognizance and is now outspoken regarding the

part that the laity has to play in effective disease control. When folks are ill and fail to consult with their physicians or otherwise choose to neglect themselves, the blame rests squarely on nonmedical shoulders. . . .

The death rate from pneumonia has shown a spectacular drop. This single fact demonstrates the prompt response by the physician to the application of the latest methods of diagnosis and treatment. . . .

In spite of great progress, too many individuals are dying from pneumonia. Many of these deaths may be due to delay. This delay may be either on the part of the sufferer who delays while "his cold wears off" or is otherwise negligent in calling his physician. Or it may be due to tardy arrival by the physician at the correct diagnosis. . . .

A REVIEW OF OBSTETRICS AND GYNECOLOGY FOR 1940

As we look back to 1940, we would say that the achievement of Edward G. Waters (*Am. J. Obst. & Gynec.*, March, 1940) had won for him outstanding recognition. His contribution was entitled "Supravescical Extraperitoneal Cesarean Section." There were more than 60 operations performed with the new technic, with 2 fetal and no maternal deaths.

Vesicovaginal fistulas are again brought to our attention in articles by W. C. Danforth and Vincent J. O'Connor. Danforth (*Am. J. Obst. & Gynec.*, Vol. 39, No. 4) describes a successful transperitoneal approach in the management of an inaccessible vesicovaginal fistula following an unsuccessful attempt at repair by the vaginal route. O'Connor (*Surg., Gynec. & Obst.*, April, 1940) emphasizes the possibility of closing less extensive vesicovaginal fistulas by cystoscopic and vaginal electrocoagulation of the fistula tract followed by proper prolonged postural drainage of the bladder by means of an indwelling catheter.

Acute inversion of the puerperal uterus is exhaustively reviewed in articles by W. B. Harer and J. Sharkey (*J. A. M. A.*, June 8, 1940) and L. E. Phaneuf (*Surg., Gynec. & Obst.*, Vol. 71, No. 1). They report a total of 26 cases and stress the importance of the proper management of the third stage of labor in preventing this obstetric catastrophe.

Douglas P. Murphy (*Surg., Gynec. & Obst.*, Vol. 70, No. 2, and *Am. J. Obst. & Gynec.*, Vol. 39, No. 5) reminds us of the physiology of the

pregnant uterus and the dangers attending the injudicious use of pituitrin in labor by his studies with the Lorand tocograph.

Philip F. Williams et al. (*Am. J. Obst. & Gynec.*, Vol. 40, Nos. 1 and 2), in a carefully studied series of pregnant women, found 62 per cent (of 123 women) markedly deficient in vitamin A and considerably deficient in dark adaptation time, and more than one-third of a group of 91 pregnant women were not receiving an adequate amount of vitamin B₁. A positive correlation between the vitamin B₁ inadequacy and deficiency symptoms, such as excessive nausea and vomiting, fatigue and paresthesias, was found.

Our knowledge of vitamin K has increased greatly due to the work of J. E. Fitzgerald and A. Webster (*Am. J. Obst. & Gynec.*, Vol. 40, No. 3) and I. N. Kugelmass (*Arch. Dis. Childhood*, June, 1940). The former found that a definite rise in the prothrombin level of the blood could be produced at the end of labor by the oral administration of klotogen and by the intravenous injection of synthetic vitamin K. They also discovered that depression in the prothrombin level of both mother and child caused by the use of sodium pentobarbital could be prevented by the administration of vitamin K. Kugelmass points out that the prenatal use of vitamin K successfully prevents hemorrhagic disease of the newborn in cases in which there is a lowered prothrombin level in the maternal blood.

The value of a neutral diet and hydration together with ammonium chloride in the treatment of toxemias of pregnancy is shown by R. R. de Alvarez (*Am. J. Obst. & Gynec.*, Vol. 39, No. 3) in his study of 152 cases of toxemia of pregnancy at the University of Michigan since 1933, in which there was only one maternal death.

In an excellent review of the use of sulfanilamide in obstetrics and gynecology, C. A. Gordon and A. H. Rosenthal (*Am. J. Obst. & Gynec.*, Vol. 40, No. 2) conclude that sulfanilamide should be used in gynecologic infections (1) if they are primary gonococcic, (2) if the smear or culture is positive with exacerbation or reinfection of old gonococcic infection, and (3) when the *Streptococcus hemolyticus* can be demonstrated as the infective agent. They advise against the use of chemotherapy in minor febrile disturbances.

Stilboestrol, a chemical compound derived from benzene which possesses marked estrogenic properties, has been exhaustively studied, U. J. Salmon et al. (*Am. J. Obst. & Gynec.*, Vol. 40,

No. 2) state that stilboestrol has an estrogen-like effect on the vaginal smear, vaginal mucosa, and endometrium; it inhibits excessive gonadotropic hormone in the menopausal patient and relieves the hot flushes of the menopause, but exhibits such marked toxic symptoms of nausea, vomiting, and vertigo as to seriously impair its therapeutic usefulness. C. W. Mucklé (*Am. J. Obst. & Gynec.*, Vol. 40, No. 1) found that the oral administration of 5 mg. of stilboestrol 3 times daily for 6 doses efficiently and safely suppressed lactation in the early puerperium.

R. F. Becker et al. (*Surg., Gynec. & Obst.*, March, 1940) add to our small store of knowledge of fetal physiology in utero by their roentgenologic studies of fetal swallowing, gastrointestinal activity, and defecation in amnio in the guinea pig.

The further development of blood banks, plasma banks, placental blood and placental plasma banks is of the greatest practical value and has been the means of saving many lives. Obstetric abnormalities frequently give rise to a most urgent need for blood transfusions. A blood bank or plasma bank meets this need immediately and saves time that is so vitally important. Among the many contributions to this subject, the work of C. S. Fine et al. (*Am. J. Obst. & Gynec.*, March, 1940), W. M. Heyl (*Am. J. Obst. & Gynec.*, April, 1940), and J. Scudder et al. (*Am. J. Obst. & Gynec.*, September, 1940) should be mentioned. The invaluable practical work of Max Strumia at Bryn Mawr Hospital in connection with the preparation and use of dried plasma demands recognition.

Direct visualization of the placenta by soft-tissue roentgenography has been brought to a high degree of accuracy by A. L. Dippel and W. H. Brown (*New England J. Med.*, Aug. 29, 1940) and by others, notably Kornblum of Jefferson Hospital, who has carried on this work for a number of years but has not published his recent results. This method of examination offers a valuable aid in the diagnosis of suspected placenta praevia and entails no added risk to mother or child.

Progress in obstetrics and gynecology is proved by the report of E. C. Daly of the Children's Bureau, who states that there has been a 12 to 14 per cent reduction in infant mortality per year for the past 4 years, and by the reports of the various committees on maternal mortality throughout the nation. In Pennsylvania it is expected that the maternal mortality rate for 1940 will be the lowest in the history of the Vital Statistics Bureau in the State Health Department.

MEDICAL AND SANITARY CARE OF THE CIVILIAN POPULATION NECESSITATED BY ATTACKS FROM HOSTILE AIRCRAFT

This is the title of an article by Captain Lucius W. Johnson, Medical Corps, U. S. Navy, which was selected as the Sir Henry Wellcome Prize Essay for 1940. The essay is published in full in *The Military Surgeon*, January, 1941, Vol. 88, No. 1. Needless to say, the author has presented a very instructive thesis.

The following from the essay is a very valuable suggestion, and its observance should be followed as a matter of routine: "In the times of greatest pressure after an air attack, it will prove valuable to have an experienced surgeon devote his entire attention to selection of cases and assigning priority to them. This has been found to be one of the surest ways to relieve the inevitable congestion at the aid station which, in Poland and Finland, cost many lives that might have been saved. Belly, lung, femur, and head cases, in this order, have been found to cause the most difficult problems in priority of transport and treatment. From Norway comes the report that 8 times as much dressing material was required for wounds caused by bombs as would be required for a similar number of industrial wounds. This explains why the tremendous demands are being made for dressing materials."

The article is prefaced with the following:

"If England and France oppose me in Czechoslovakia, it will mean war. London and Paris will be bombed by 50 planes, every hour on the hour, until they submit to my will."

"When Mr. Hitler spoke those words to Mr. Chamberlain at Munich in the fall of 1938, he accomplished 2 important things. First, he sent Mr. Chamberlain hurrying back to London to at-

tempt to delay the inevitable war until the allied countries were better prepared for defense against aerial attack. Second, he brought dramatically to the civilized world a realization that they had failed to appreciate the possibilities of 'total war.'"

THE GIMBEL AWARD

Catharine Macfarlane, M.D., of Philadelphia, professor of gynecology at the Woman's Medical College of Pennsylvania, was the recipient of the Gimbel Award for 1940. The ceremonies incident to conferring the Gimbel Award were conducted in the Gimbel Auditorium, Dec. 30, 1940, with 600 in attendance. Dr. Macfarlane was the ninth recipient of the honor.

The award, which consists of an embossed scroll and a check for \$1000, is presented annually the day before Christmas to the outstanding woman living in the Philadelphia area. The name of the recipient is not divulged until she is called to the stage to receive the award.

In presenting the award, Mr. Ellis A. Gimbel, the donor, said that Dr. Macfarlane was chosen primarily because of her clinical research on the control of cancer in women, which work she organized in 1938.

Dr. Macfarlane announced that one-half of the check would be donated to the anticancer fund, and the other half would be donated to the Woman's Medical College Hospital in honor of the late Mrs. Fridolyn Gimbel, the mother of Mr. Ellis A. Gimbel, who makes possible this very delightful celebration each year.

Dr. Macfarlane is the first woman from the field of science to receive the award.

SKYSCRAPER HOSPITAL IS TOPPED BY PLANE BEACON

With the opening in Richmond of the 20-story, \$2,500,000 skyscraper hospital of the Medical College of Virginia, Dixie will have what hospital authorities declare is the nation's most modern building for the care of the sick and for medical teaching.

A preview of the hospital, from the federal government specified airplane beacon on top to the 16-ton-per-day ice manufacturing plant in the sub-basement, was shown to 3500 invited guests.

Complete air-conditioning throughout the hospital is one of the many modern features in the building. The system will be used for heating and humidifying in winter, for introduction of fresh air in summer, and in

the beginning, for cooling of the first and the operating room floors in summer. Other ultramodern features of the hospital are:

Microphones providing 2-way communication between nurses and physicians in operating and delivery rooms and observers, who will be behind glass partitions.

Elimination of the traffic congestion for students and visiting physicians usually created by the teaching amphitheater in the center of a large hospital.

A lighting system which makes it impossible for a light ever to shine in a patient's face.

Unique signal system for private patients whereby those able to talk will telephone messages directly to the nurses' station and those unable to talk will be able to get a message to the nurse by a special attachment on the telephone.—*Science News Letter*, Dec. 7, 1940.

TUBERCULOSIS ABSTRACTS

A Review for Physicians

PREPARED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

Published through the co-operation of the Pennsylvania Tuberculosis Society
and The Medical Society of the State of Pennsylvania

OLIVER WENDELL HOLMES admonished his medical colleagues to put themselves in the patient's shoes, for that would make them more considerate and sympathetic. A physician, who has the gift of graphic description, gives us an objective account of his own sensations during a siege of tuberculosis and a thoracoplasty operation. The tuberculosis specialist as well as the general practitioner will read the account with interest.

TUBERCULOSIS—AN INTIMATE CHRONICLE

In 1932 the author discontinued medical school and entered a sanatorium with the diagnosis of moderately advanced tuberculosis. After more than 6 years of intermittent curing and working, it was decided to collapse the lung by thoracoplasty. Space permits only that part of the story which has to do with the operation. It was scheduled for a Thursday afternoon. The Monday of that week the patient entered the hospital for the routine laboratory tests. He forced fluids, did this patient, to the extent of 3 quarts a day and between meals he nibbled on a chocolate bar.

The morning of the operation arrived. The breakfast was a scanty one. The entire right side of the chest was shaved. But the event that he remembers most vividly is the enema, his first. He thought his intestines would break unless that eventuality were prevented by premature death from cramps. And he had prescribed enemata, not knowing the sensation they produce.

Lunch consisted of 6 grains of sodium amytal. Soon he was asleep. Thereafter events grew hazy. He was awakened when the nurses came to dress him for the operation, but the awakening was perfunctory. Faintly, he realized that one nurse was donning the boot hose and another was sticking the hypodermic needle into his arm. He must have slept, for he did not recall her extracting it. Nor could he remember anything of his transfer from bed to stretcher, the long ride from one building to another, down one noisy elevator and up another, nor the operating room itself. In fact, the next thing he knew he was back in his room, dusk had settled, a few friends were looking through the door, and a nurse was beside him. He felt fine and fully awake.

Just then his physician entered the room and in his bounding, cheerfully forceful way told him of the good result. "Four ribs practically entirely removed and the lung has collapsed nicely. You probably won't need any more surgery," he added.

That made the patient feel so well that he was tempted to climb over the side guards. The inclination was mental rather than physical, and instead, he swallowed a little Vichy water and was happy to retain it. Nine p. m. The visitors and well-wishers vanished. The nurse pressed out the lights as she withdrew into the corridor, and he was alone.

Well! With nothing to do his mind wandered to his pulse and his fingers were not long in following. He couldn't count it; it was so fast and irregular. But he felt well. Maybe he lay there for an hour when he retched suddenly, forcefully and unexpectedly. He thought his lungs and abdominal organs had popped out through his subclavicular region. He learned then, without aid of a dictionary, what the term exquisite pain means. Strangely enough the wound on which he was lying didn't bother him at all then. For the few subsequent retches he braced himself and instead of having them explode in his chest they were eased over the pharynx with little discomfort.

That first retch seemed to be the signal for the pain to begin. First, there was hyperesthesia around the mouth, probably due to the tightness of the anesthesia breathing cup. Next, all his teeth began to ache, and that's not hyperbole. They ached all through that first night. Later, his shoulder began to clamor for self-assertion. He didn't sleep very well that night, and occasionally, with the assistance of the nurse, he would turn from back to side, or vice versa, over the big

bandage, and each time, try as he would to prevent it, the cautious maneuvering always ended in a thud as if he were rolling up or down a curb.

That first postoperative night he had a drenching sweat, and was quite worn out waiting for the dawn. When it came he slept for some 3 hours and felt wonderfully improved.

That day when the urinal was handed to him at various regular intervals he could void all right, but it was accompanied by no urgency, only by a sensation of numbness, and he couldn't predict whether he would void an ounce or a pint. The second night the sweat was only dampening. Thereafter it was absent or too mild to be noticed.

The first postoperative days, during those few minutes each day when the patient was turned on his unoperated side, dyspnea was almost suffocating. He noticed none at other times.

Although there was some discomfort in the operated shoulder, the pain really didn't come in earnest until the third night. Then his back began throbbing in the region of the wound, and muscles that hadn't been incised were lame. About every half hour he would attempt to relieve the pain by changing his position. This produced more discomfort but little else; for, to the large bandage on his back was now supplemented a shot bag of the general size and shape of a rolled-up Sunday newspaper. These 2 articles effectively kept him in his place.

The night wore on and he was feeling sick and irritable from pain and the lack of sleep; his former resolve to take no pantopon broke down, then and there. It was the first "hypo" that he ever received for the relief of pain. What a great drug it is! In a short time he felt comfortably warm and hazy, a delightful haziness. Gradually, an itchiness appeared all over his skin. He remembered promising himself that he would scratch it later, but before he got to it the night passed, nor does he remember having slept. That didn't annoy him because sleep would have robbed him of that pleasant hazy experience. It was as if, after much work, he had dropped exhausted on the bed, too tired to sleep, and had disintegrated into 2 people. The one who had pain was unimportant; the important, the conscious one was looking nonchalantly on and not minding it.

On the fourth postoperative day, a small 3-pound shot bag was cradled in the right subclavicular region. It later was accompanied by a severe headache in the right frontal and occipital regions. The patient had never been subject to headaches, and the occurrence of headache after wearing that shot bag, and a larger one, was noticed too frequently to be mere coincidence. There was a relationship between them.

Saturday, 2 days postoperatively, he had his second enema. The following Monday he had his last. They confirmed his original opinion

of them. They gripe—and that's not slang.

The big bandage was removed one week postoperatively, as were the skin sutures. The scar was a nice one. Naturally he was interested in trying to move his arm. There were definite weakness, soreness, and limitation of motion, but he could move it surprisingly well. He roughly estimated it to have maintained about three-fourths of its normal function in all directions. Thereafter, each day, he grabbed hold of the steel bars at the head of the bedstead and worked his arm progressively further along it. Within a month postoperatively there were only stiffness and weakness, without any real limitation compared with the other side. Within 6 weeks all the stiffness had disappeared, and, except for definite weakness, the arm was quite normal. The weakness was especially marked when he held the arm out in front of him, particularly when he elevated it above the shoulder.

Four days postoperatively, with the aid of a toe hold on the foot of the bedstead, he was able to sit up unassisted, but he didn't feel quite well until 10 days postoperatively.

Six weeks postoperatively the collapse as shown on the roentgen-ray film appeared to be excellent and it was decided that one stage of 4 ribs was all that he needed. The following week he returned home (and with the aid of a diary began to write a few notes regarding the operation).

One day he dropped his pencil under the bed and in an effort to regain it had to get down on his knees and reach forward, upward, and outward so that the scapula on the operated side was rotated far forward and elevated. He retrieved the pencil all right but the angle of the scapula somehow climbed over the fifth rib, and on its way back nestled inside the rib leaving him in little pain but greatly embarrassed. Slowly, he manipulated the scapula back into place. The scapula hasn't locked since, but when he hunches his shoulder far upward and forward he can still feel a bumping of the angle of the scapula as it goes over the fifth rib.

Before the right pectoral muscles had regained much tone he could place his fingers in the depression left by the excised ribs and feel the muscles on the pleural side of the scapula, and could push the scapula backwards. Now, 6 months after the operation, this can no longer be done.

As long as 4 months postoperatively, the patient could still feel very occasionally a vague pinching in the region of the scar and thought perhaps it was due to regeneration of the nerves.

Your chronicler hopes to continue to observe the result of this operation, and report more fully on its outcome after sufficient time has elapsed to evaluate properly its benefits and shortcomings.

Tuberculosis—An Intimate Chronicle, by John A. O'Hale, *Amer. Rev. of Tuberc.*, November, 1940.

PENNSYLVANIA COMMITTEE ON MEDICAL PREPAREDNESS

To co-operate with the Committee on Medical Preparedness of the American Medical Association and with similar committees of the component societies of The Medical Society of the State of Pennsylvania

CHARLES H. HENNINGER, M.D., CHAIRMAN, 8102 JENKINS ARCADE BUILDING, PITTSBURGH

FRANCIS F. BORZELL, M.D., PHILADELPHIA

WALTER F. DONALDSON, M.D., PITTSBURGH

HARVEY B. STONE, M.D., THIRD CORPS AREA, BALTIMORE, EX-OFFICIO

TO: THREE THOUSAND PENNSYLVANIA DOCTORS OF MEDICINE

SUBJECT: Medical Preparedness For National Defense

Jan. 21, 1941

Dear Doctor:

You are less than 66 years of age and, unless you are physically disqualified, you represent a potent source of a service (medical) very essential to adequate national defense in its military, industrial, or community branches.

In order that all physicians may be known and classified, at the suggestion of our National Government the American Medical Association is requesting that you complete and forward the enclosed form. PLEASE ATTEND TO THIS TODAY, REGARDLESS OF YOUR PRESENT EMPLOYMENT OR PHYSICAL CONDITION.

More than 10,000 Pennsylvania physicians have completed and returned a similar blank to the American Medical Association (115,000 members), which was the first organization to proffer its assistance to the National Defense Commission.

Your compliance with this request will greatly facilitate the ultimate planning for good medical service to soldier and citizen alike in the face of any national emergency.

Yours sincerely,

Charles H. Henninger, M.D., Chairman,

PENNSYLVANIA COMMITTEE ON MEDICAL
PREPAREDNESS.

Enclosures:

A.M.A. blank
Return envelope

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, *Secretary*
8104 Jenkins Arcade
Pittsburgh, Pa.

MEDICAL PREPAREDNESS

The Last Call

As of Jan. 4, 1941, more than 80 per cent of the 9300 members of The Medical Society of the State of Pennsylvania had completed and returned the A. M. A. Preparedness form. On the same date approximately 45 per cent of the 4000 non-member physicians of Pennsylvania had not returned the completed form. The Pennsylvania Committee on Medical Preparedness hopes to be able to publish in the April number of the JOURNAL a more detailed statement concerning the above proportions, county by county.

The "Last Call" letter on the opposite page is self-explanatory.

THE JANUARY HONOR ROLL

On Jan. 10, 1941, the State Society secretary had received the current year's dues of 1866 of our 9200 dues-paying members. This splendid showing is the result of the faithful efforts of the officers of 29 of our 60 component county societies not only in collecting but in forwarding promptly the dues of their members paying their 1941 dues early.

Honorable mention in this connection is here made of the secretary of the Montgomery County Medical Society, who, as early as Nov. 13, 1940, had forwarded the dues of 16 members of that society, and on Jan. 10 had paid the dues of 60 per cent of its 261 active members. The only other county society that had paid the dues of 50 per cent or more of its members is the Columbia County Medical Society, with the 1941 dues of 29 of its 42 members paid. This latter society is also the first to pay from its treasury the 1941 State Society dues of a member who has entered active military service.

To the great credit of our 2 largest component societies, Allegheny and Philadelphia County

Medical Societies, mention should also be made here that they have each, within the first week of the new year, collected from one-third of their membership, furnishing approximately 1300 of the total number of members paid as mentioned above.

EXCERPTS FROM MINUTES OF MEETING OF BOARD OF TRUSTEES

Dec. 10, 1940

The Board of Trustees of The Medical Society of the State of Pennsylvania convened in regular session in the Board Room of the headquarters building, 230 State Street, Harrisburg, on Tuesday, Dec. 10, 1940, at 9:30 a. m.

The meeting was called to order by Chairman Robert L. Anderson. Others in attendance were: Trustees John J. Brennan, Cloy G. Brumbaugh, Edgar S. Buyers, Park A. Deckard, Norbert D. Gannon, John P. Harley, Frank A. Lorenzo, Peter P. Mayock, E. Roger Samuel, Laurrie D. Sargent, and George C. Yeager, President Francis F. Borzell, President-elect Lewis T. Buckman, Secretary Walter F. Donaldson; Chairmen C. L. Palmer and Kenneth Scott of the Committees on Public Health Legislation and Medical Economics, respectively; former Trustees Augustus S. Kech and Alexander H. Stewart; and Messrs. Perry and Stewart. . . .

Taking up the report of the secretary, the items regarding expense and other experiences in connection with the social features, the scientific exhibit, public exhibits, and the scientific program of the 1940 session were reviewed.

At the request of the secretary for advice to the secretary and to Messrs. Perry and Stewart, as the 1940 and 1941 annual session representatives of the Board of Trustees, discussion by the board of plans for the 1941 session was culminated under the following motion: Dr. Lorenzo moved that the procedures which had been carried out at the 1940 session be adopted and adapted as the plan for the 1941 session at Pittsburgh. Dr. Brumbaugh seconded this motion and it was unanimously carried.

Secretary Donaldson, in the absence of Chairman Frederick M. Jacob, then read the report of the Committee on Public Relations (see Officers Department, January, 1941, PENNSYLVANIA MEDICAL JOURNAL). Items covered in the report, which was approved by action of the board, were as follows: County Medical

Society Speakers Bureaus; Health Exhibits for the Public; County Health Poster Prize Contests; Motion Pictures and Public Instruction. . . .

Dr. Brennan moved that an appropriate symbol be placed before the name of deceased physicians who were members at the time of death as they appear in the Medical News section of THE PENNSYLVANIA MEDICAL JOURNAL. This motion was seconded by Dr. Lorenzo and unanimously carried.

Chairman Yeager of the Publication Committee then read the list of members, replacing associate editors, proposed by his committee to serve as 1941 contributing editors to the JOURNAL, each to provide at least one editorial discussion of a scientific character annually. The list of contributing editors follows:

INTERNAL MEDICINE—Alexander H. Colwell, Pittsburgh; Richard A. Kern, Philadelphia.

SURGERY—Maxwell Lick, Erie; George P. Muller, Philadelphia.

PEDIATRICS—Henry T. Price, Pittsburgh.

OBSTETRICS AND GYNECOLOGY—Frank C. Hammond, Philadelphia.

OPHTHALMOLOGY—Walter I. Lillie, Philadelphia.

OTOLARYNGOLOGY—Nelson S. Weinberger, Sayre.

UROLOGY—David M. Davis, Philadelphia.

NEUROLOGY AND PSYCHIATRY—Baldwin L. Keyes, Philadelphia.

RADIOLOGY—Eugene P. Pendergrass, Philadelphia.

PATHOLOGY—Joseph McFarland, Philadelphia.

ORTHOPEDICS—David Silver, Pittsburgh.

DERMATOLOGY—Edward F. Corson, Philadelphia.

The secretary was instructed to express the appreciation of the Board of Trustees for services rendered to the retiring associate editors and to notify the contributing editors of their election.

Other changes recommended by the committee were as follows: Dr. Frank C. Hammond to become editor emeritus; Dr. Walter F. Donaldson to become editor of the JOURNAL, his honorarium with that of the editor emeritus to be fixed by the board upon recommendation of its Finance Committee.

Dr. Yeager then moved that these recommendations of his committee be approved to become effective Jan. 1, 1941. This motion was seconded by Dr. Brennan and carried unanimously.

Dr. Donaldson then read the report of the Committee on Medical Preparedness (see Officers' Department, January, 1941, PENNSYLVANIA MEDICAL JOURNAL).

President Borzell, discussing this report, referred to a letter of appreciation for state medical society assistance in recommending medical appointees (see reference in November PENNSYLVANIA MEDICAL JOURNAL, page 218) from William Mather Lewis, president of Lafayette College, now serving as Selective Service Director for Pennsylvania. He also suggested that members of the board refer complaints in connection with draft board medical service coming to their attention to the appropriate member of the Pennsylvania Preparedness Committee—Dr. Borzell, if complaint arises regarding such problems in a county in the eastern section of the state; Dr. Donaldson in the central section; and Dr. Henninger in the western section. . . .

Profits on Physicians' Services

After considerable discussion by Drs. Brennan, Lorenzo, Samuel, Palmer, Borzell, and Scott, which brought out numerous angles of the economic problem involved in the existing practice of the Commonwealth of Pennsylvania, by which it charges, collects, and retains fees for professional services rendered by private physicians in the wards of state-owned general hospitals, the entire subject was, upon motion, unanimously adopted, referred to the State Society's Committee on Medical Economics for study and recommendation as to final disposal of the entire subject, the committee's report to be presented at the May 13 meeting of the Board of Trustees.

A New Board Committee

Dr. Donaldson, quoting from minutes of the 1940 House of Delegates, galley 73, as mailed to each member of the board on Nov. 29, then brought to attention, first, the item "(a)" authorizing and appointing an Executive Committee of the Board of Trustees for the purpose of meeting in January, March, April, July, September, and November, to study problems presenting themselves in the interim between the October, December, February, and May meetings of the Board of Trustees and advising the board after committee consideration.

Calling Dr. Yeager to the chair, Dr. Anderson spoke in support of the proposal and discussed the committee's possible composition.

Dr. Anderson moved that the creation of such a committee be authorized. This motion, duly seconded, was carried.

Dr. Samuel moved that the name of the present Executive Committee be changed to the Building Maintenance Committee; seconded by Dr. Lorenzo and adopted.

Dr. Anderson moved that the newly authorized committee consist of the chairman of the board, the chairmen, respectively, of its Finance Committee, Publication Committee, Building Maintenance Committee, and ex officio, the president, the president-elect, and the secretary of the society. Dr. Gannon seconded the motion and it was duly carried.

Dr. Deckard made a motion, seconded by Dr. Lorenzo, which was unanimously carried, electing to the Executive Committee of the board Drs. Anderson, Brennan, Yeager, Samuel, and ex officio, Drs. Borzell, Buckman, and Donaldson. . . .

The secretary having called attention to the fact that the House of Delegates had adopted the recommendation of a reference committee favorable to the creation of a Commission on Nutrition and Deficiency Diseases, Dr. Mayock moved that such a commission be authorized, and the motion, seconded by Dr. Brennan, was carried.

Chairman Kenneth Scott of the Medical Economics Committee presented his committee's report epitomized on the following topics:

(A) *Fee Schedule for Roentgen-Ray Work in State Hospitals.*

Quoting Dr. Scott—

"Our committee, having conferred with representatives of the Pennsylvania Radiological Society, reviewed the fee bills for roentgen-ray services submitted by (1) the latter society, (2) formerly used by the State Workmen's Compensation Board, and (3) recently announced by the State Welfare Department for use in

state-owned general hospitals. No. (3) involved average reductions approximating 50 per cent of the fees provided in (1) and (2).

"Our committee then recommended that representatives of The Medical Society of the State of Pennsylvania and the Pennsylvania Radiological Society confer with representatives of the State Department of Welfare. As a result, John H. Gemmell, M.D., of Rochester, Pa., has reported that the conference resulted in revision of the Welfare Department's roentgen-ray service fee schedule up to the level of the minimum of No. (2) above, with ward patients in the state's hospitals however receiving a 25 per cent reduction.

"The revision is satisfactory to the Pennsylvania Radiological Society and letters have gone out advising the various state hospitals to this effect, hoping that they would be approved by the various boards and become effective Jan. 1, 1941.

(B) *State-Owned Hospitals, General Fees.*

"The study of roentgen-ray fees in state-owned general hospitals suggests the desirability of consideration of professional fees for all forms of service charged in these state-owned hospitals which very definitely compete with private practitioners. The opinion of the Board of Trustees is requested.

(C) *Farm Security Administration Program—Lycoming County.*

"The Lycoming County Medical Society has requested information relative to the establishment of such service.

(D) *Medical Service for Tenants of Federal Housing Projects.*

"Our committee will keep this under observation, but will take no action unless requests come from a component county medical society for experimentation in Pennsylvania."

Dr. Brennan moved that this report be accepted. This motion was seconded by Dr. Gannon and carried.

Chairman C. L. Palmer, of the Public Health Legislation Committee and the State Healing Arts Advisory Committee to the State Department of Public Assistance, gave a report epitomized as follows:

1. It is anticipated that in the 1941 regular session of the Legislature a determined effort will be made to restore the Pennsylvania Workmen's Compensation Act to its status at the time the 1937 Legislature adjourned. Our Committee on Public Health Legislation and our Committee on Workmen's Compensation Laws favor replacing in the act the "party-in-interest" clause and increasing the coverage for medical service as well as the time limit for such.

2. We should strive for an increase in the monthly allocation from the Department of Public Assistance for the medical service to recipients.

3. Our committee favors the development of a merit system in the Health and Welfare Departments limited to the lines of a bill we had framed in 1937.

4. There are many signs of great activity among the cults in the coming legislative session. Chiropractors and chiropodists want their own licensing boards. Our committee contemplates study and possible introduction of a basic science bill.

5. To our surprise and disappointment, the Supreme Court of the state denied the appeal from an earlier opinion by the Superior Court to the effect that all osteopaths might prescribe narcotics. We are con-

ferring with the Secretary of Health and representatives of the Department of Education regarding the next step in attempting to better control this situation.

6. At a very recent meeting of the Conference on Professional Licensees, your chairman, accompanied by the vice-chairman of our committee, Dr. Deckard, again informed those present that The Medical Society of the State of Pennsylvania would not continue its participation unless the work of the conference was confined specifically to endeavors to improve enforcement of the various regulative legislative acts.

It is noted that as a result of the activity of this conference there has recently been an improvement in the services of the Enforcement Bureau.

After Dr. Deckard had confirmed the comments of Dr. Palmer and his own original position on the subject, Dr. Brumbaugh moved, seconded by Dr. Brennan, that Dr. Palmer be instructed to withdraw our society from any form of participation at such time as he deemed wise and without involving the society in any financial obligation to the conference. Before this motion was finally adopted, the subject was freely discussed.

7. Speaking as president of the Medical Service Association of Pennsylvania, Dr. Palmer reported more than 1000 subscribers to the limited, in-hospital, surgical and obstetric service which is available only to employed groups; also the signing of participating agreements by more than 100 participating physicians.

Dr. Yeager moved that the Building Maintenance Committee be authorized to take the proper steps to have the third floor of the society's building vacated for the use of the Medical Service Association of Pennsylvania. Motion seconded by Dr. Harley and carried.

Dr. Brennan moved that Dr. Palmer's report as given be accepted. Motion seconded by Dr. Mayock and carried. . . .

Dr. Donaldson called attention to the fact that there was no representative of the scientific Section on Pediatrics present, as per earlier suggestion to them, for the purpose of discussing with the board the position to be taken by the society on legislation proposed regarding the homogenization of milk.

He also mentioned the conference between the members of the society's committee to confer with the Pennsylvania Board of Medical Education and Licensure, representatives of the latter board and the office of the state's attorney-general, and representatives of various medical schools and hospitals throughout the state, to be held in the Board Room at 4 p.m., to discuss the subject of legalizing certain hospital residencies in Pennsylvania.

Dr. Yeager moved that the board adjourn for luncheon at 12:45 to reconvene at 1:45 p.m. Motion seconded by Dr. Brennan and carried.

At the call of Chairman Anderson, the board reconvened at 2 p.m.

After a short discussion regarding the advisability of holding the usual secretaries' and editors' conference in February, 1941, a motion by Dr. Yeager to the effect that such conference not be held in 1941 was seconded by Dr. Harley and carried.

Dr. Donaldson requested that well-thought-out and approved plans for holding a meeting in Harrisburg on the subject of the "Future of Public Assistance Medical Service" during the 1941 secretaries' conference should not now be overlooked. Dr. Mayock moved that such a conference as planned by Dr. Charles

C. Rinard, of Allegheny County, President Borzell, Secretary Donaldson, and Chairman Palmer be authorized and expenses paid to include a total of 20 representatives of 20 active county healing arts advisory committees, at least one from each councilor district, to be held in Harrisburg in January, 1941. This motion, seconded by Dr. Yeager, was carried. . . .

Respectfully submitted,

ROBERT L. ANDERSON, *Chairman*,
FRANK A. LORENZO, *Clerk*,
WALTER F. DONALDSON, *Secretary*.

Dec. 27, 1940.

THE NATIONAL PHYSICIANS' COMMITTEE ANNOUNCES "THREE CENTS A DAY CLUB"

The battle to maintain free enterprise and independence in the practice of medicine in America is not yet over. On the contrary, it is more urgent than ever that all the forces available be concentrated.

The National Physicians' Committee for the Extension of Medical Services has just completed its first year of activity. It was thought not expedient during the political campaign for this committee to exert any marked activity. The time has come, however, for expansion of our defensive forces. There are certain threats to the integrity of the American way of living in medical and health matters coming under the guise of military preparedness that make it essential that the arms of the National Physicians' Committee be strengthened.

The *Journal of the American Medical Association*, in the Dec. 7 issue, contained an editorial which said, "such an agency will find a large field for its expanded program of public enlightenment."

The Medical Society of the State of Pennsylvania is actively identified with this committee, President Francis F. Borzell being one of the trustees.

The easiest and most efficient way for physicians to support the work of this committee is by way of financial participation. President Borzell urges that every physician subscribe to the "Three Cents a Day Club" of the N. P. C. Every physician in Pennsylvania should enlist in what may be the deciding battle in our long arduous fight to preserve America for democracy and the democratic way of living. Send your \$10.95 for 1941 to "N. P. C. Treasurer," National Physicians' Committee, Pittsfield Building, Chicago, Ill.

RECENT DEVELOPMENTS IN PUBLIC ASSISTANCE PROGRAM

To Chairmen of Public Assistance Subcommittees of Component County Medical Societies.

This letter is for the purpose of informing you and the members of your county medical society as to the most recent developments in the medical care program of Public Assistance recipients.

During the month of September, representatives of the Philadelphia County Healing Arts Advisory Committee, the State Healing Arts Advisory Committee, representatives from the Department of Public Assistance, together with a representative from the American Welfare Association, the United States Public Health Service, and the Federal Social Security Board, collaborated in a study of the various plans now in existence throughout the United States and Canada, and after very careful consideration concluded that the service plan followed in Pennsylvania was better than any other in the United States. However, all were in agreement that there were insufficient funds to pay for Pennsylvania's minimum program.

The representatives of the Philadelphia County Healing Arts Advisory Committee, as a result of their broad experience, recommended the following:

1. Expansion of the dental program as recommended by the officers of the State Dental Society.
2. Since in Philadelphia County the incidence of illness has risen in spite of a drop in the Public Assistance rolls, they advise that in the future the system of allocating funds be on the basis of the sickness load in each county.
3. That some screening process, such as the employment of a medical-social worker, might be tried for the limitation of the amount of professional service rendered chronic cases.

At another meeting of the State Healing Arts Advisory Committee on Jan. 6, 1941, with representatives from the Department of Public Assistance, statistics were introduced which indicated that Philadelphia was the only county in which there was any considerable rise in the incidence of illness even though the total numbers on the assistance rolls had dropped.

Therefore, the committee recommended that a request be made to the Department of Public Assistance and the Board of Public Assistance to increase the monthly allocation *per individual on the Public Assistance rolls* in each county to 30 cents and that an additional 2 cents be granted to pay for an expanded dental program. The new dental program (adding some prophylaxis) is not to exceed 15 per cent of the monthly allocation. The present dental program (emergency extractions only) consumes 7 per cent of the monthly allocations. If under the new dental program over 15 per cent is charged, the dentists participating will be further prorated.

As a result of the concerted action and highly commendable teamwork of the county medical society sub-advisory committees, it is my belief that there is a better chance at the present time than ever before to obtain more funds through the 1941 Legislature and the State Department of Public Assistance for this service.

Our Healing Arts Advisory Committee will meet with the State Board of Public Assistance on or about Jan. 23 to present to them the request for an increase. It is our hope and we are reasonably confident, depend-

LAW ENFORCEMENT

Medical Prosecutions Instituted by the Law Enforcement Division, Pennsylvania Department of Public Instruction, During October-November

CRIMINAL PROSECUTIONS—1940

October

Name	County	Prosecutor	Violation	Plea or Verdict
Mumford, Walter	Philadelphia	In collaboration with local detectives	Medical	Fined \$50 and costs
Reed, Margaret	Philadelphia	In collaboration with local detectives	Medical	Acquitted
Cothery, F. S.	Allegheny	R. S. Davis	Medical	Held for court
Wong, George Nelson ...	Philadelphia	McHenry and Musante	Medical	Dismissed
Murry, George E.	Lancaster	J. D. Musante	Medical	Held for court

November

Cothery, F. S.	Allegheny	R. S. Davis	Medical	No true bill
Marsh, J. C.	Delaware	M. E. Emmons	Medical	Held for court
Wong, George Nelson ...	Philadelphia	McHenry and Musante	Medical	Dismissed (second prosecution)

ing upon preliminary action by all county committees, that this request will be granted.

C. L. PALMER,

Representing The Medical Society of the State of Pennsylvania on the State Healing Arts Advisory Committee to the State Department of Public Assistance.

Jan. 10, 1941.

CONTRIBUTIONS TO MEDICAL BENEVOLENCE FUND

The Committee on Medical Benevolence makes grateful acknowledgment of contributions to the Medical Benevolence Fund from woman's auxiliaries to the following county medical societies:

A friend	\$25.00
Woman's Auxiliary, Delaware County Medical Club	25.00
Total contributions since 1940 report	\$579.00

AN OMISSION

W. GILBERT TILLMAN, M.D., *District Censor*, Northampton County Medical Society, Easton, Pa.

DEAR DR. TILLMAN:

Your post card received this morning. We heard from Dr. Thomas H. A. Stites yesterday on the same topic.

Needless to state our entire office staff most sincerely regret that your name was inadvertently omitted from the printed list (January) of 1940-41 district censors.

It will be corrected, but the first time the district censors ever "got a break" in the JOURNAL should not have been marred by the omission of the name of a good district censor, representative of a good county medical society.

WALTER F. DONALDSON, *Secretary*.

Jan. 16, 1941.

MEETINGS HELD RECENTLY AT 230 STATE STREET

1940

- Nov. 25, 10 a.m.—Executive Committee of Pennsylvania Conference of Professional Licensees.
- Nov. 25, 2 p.m.—Pennsylvania Conference of Professional Licensees.
- Dec. 9, 1 p.m.—Executive Committee of Pennsylvania Conference of Professional Licensees.
- Dec. 10, 9:15 a.m.—Board of Trustees of The Medical Society of the State of Pennsylvania.
- Dec. 10, 4 p.m.—Conference on Graduate Residencies for Unlicensed (Pennsylvania) Physicians.
- Dec. 14, 11 a.m.—Committee on Industrial Health.
- Dec. 18, 10 a.m.—State and Philadelphia County Healing Arts Advisory Committees.
- Dec. 18, 1 p.m.—Pennsylvania Conference of Professional Licensees.
- Dec. 27, 2 p.m.—Committee on Graduate Residencies.

1941

- Jan. 6, 1 p.m.—State Healing Arts Advisory Committee.
- Jan. 7, 1:30 p.m.—Committee on Public Health Legislation.
- Jan. 7, 2 p.m.—Executive Committee of Board of Trustees.
- Jan. 8, 2:15 p.m.—Members of Medical Service Association of Pennsylvania.
- Jan. 8, 2:45 p.m.—Board of Directors of Medical Service Association of Pennsylvania.
- Jan. 15, 2 p.m.—Representatives of 20 County Medical Advisory Committees to Public Assistance Board.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to Dec. 1:

New (48) and Reinstated (18) Members

ALLEGHENY COUNTY

Fred A. Bisceglia	Pittsburgh
S. Milton Dupertuis	"
Frederic E. Grossman	Clairton
Frederick A. Ruoff	Aspinwall

BEAVER COUNTY

(Reinstated) Charles R. Cephas, Harry M. Snyder.

CAMBRIA COUNTY

William M. Conway Johnstown

CENTRE COUNTY

John E. Dotterer State College

COLUMBIA COUNTY

Jacob L. Gluchoff Bloomsburg

(R) Daniel W. Beckley.

DELAWARE COUNTY

Robert F. Allen Ridley Park

Arthur S. Reynolds Upper Darby

ERIE COUNTY

(R) Katherine Law-Wright.

FRANKLIN COUNTY

Agnes L. Brown Chambersburg

Louis C. Gordon"

GREENE COUNTY

(R) Vincent P. Hart, A. Carl Walker.

HUNTINGDON COUNTY

(R) Charles A. R. McClain.

LACKAWANNA COUNTY

(R) John T. Murphy, James E. O'Toole.

LAWRENCE COUNTY

Paul B. Wilson New Castle

(R) Paris A. Shoaff.

LEBANON COUNTY

Henry Heisey Quentin

John J. B. Light Lebanon

Nelson S. Scharadin Cleona

LEHIGH COUNTY

Charles S. Hertz Allentown

Arthur Lindenfeld"

Philip F. Newman"

Asher G. Ruch Schnecksville

Robert J. Turnbach Allentown

Clifford J. Wickert"

LUZERNE COUNTY

Bertha P. Rodger Wilkes-Barre

LYCOMING COUNTY

Charles A. Lehman, Jr. Williamsport

MONTGOMERY COUNTY

Edgar F. Lillicrapp Hatboro (Bucks Co.)

Richard D. Nies Boston, Mass.

Edward V. Ocelus Bridgeport

Elmo B. Sommers Norristown

(R) Almon C. Stabler.

NORTHAMPTON COUNTY

Warren C. Dietrich, Jr. Bethlehem

PHILADELPHIA COUNTY (Philadelphia)

Edwin T. Bruce, Jr.	Grace D. Kimbrough
George S. Frauenberger	Alfred E. Krick
Illarion I. Gopadze	Isadore Laskin
Samuel Finley Gordon	Waldo E. Nelson
Walter P. Havens, Jr.	Ruben R. Pottash
Ursula M. Hober	Harry L. Stewart, Jr.
Max D. Kasser	Valentine Wm. M. Wright

(R) Roy L. Langdon, Louis A. Soloff

SOMERSET COUNTY

Violet M. Hemminger Somerset

Miller J. Korn Sipesville

(R) Oscar L. Reynolds.

VENANGO COUNTY

Frederic Wm. Wilson Franklin

(R) William R. Jobson.

WARREN COUNTY

Robert H. Noce N. Warren

George E. Poucher"

WASHINGTON COUNTY

(R) Howard C. Bliss, Howard D. Kuhns.

WAYNE-PIKE COUNTY

(R) Charles A. Zeller.

YORK COUNTY

Clarence L. McMillen York

Removals (9), Transfers (5), Resignations (8), Deaths (14)ADAMS COUNTY: *Death*—Harry S. Crouse, Littlestown (Univ. Pa. '05), Dec. 17, aged 63.ALLEGHENY COUNTY: *Removals*—Edward J. Carroll, Jr., from Pittsburgh to Washington, D. C.; Richard E. Haber from Pittsburgh to Fort Bragg, N. C.; I. Harold Jubelirer from Pittsburgh to Los Angeles, Cal.; Daniel N. Schwartz from Homestead to St. Louis. *Resignations*—Russell H. King, Howard H. Groskloss, Pittsburgh. *Deaths*—DeWayne G. Richey, Pittsburgh (Univ. Pgh. '15), Dec. 5, aged 48; Odgen M. Edwards, Jr., Pittsburgh (Columbia Univ. '96), Dec. 28, aged 71.BERKS COUNTY: *Transfer*—Richard J. Kilhullen, Reading, to Luzerne County Society.BLAIR COUNTY: *Removal*—Leon R. Walker from Clearfield to Hollidaysburg.CARBON COUNTY: *Transfer*—Paul M. Riffert, Ephrata, to Lancaster County Society.DELAWARE COUNTY: *Death*—Ethan A. Campbell, Chester (Univ. Pa. '05), Dec. 4, aged 62.FRANKLIN COUNTY: *Death*—Percy D. Hoover, Waynesboro (Univ. Pa. '99), Nov. 14, aged 68.INDIANA COUNTY: *Removal*—Leon Rosenberg from McIntyre to Nespelem, Wash.LACKAWANNA COUNTY: *Resignation*—Harry A. Goodman, Los Angeles, Cal.LAWRENCE COUNTY: *Transfer*—Rozella Popp, Warren, to Warren County Society.

MERCER COUNTY: *Transfer*—Esther Silveus, Pittsburgh, to Allegheny County Society. *Removal*—George L. Gleeson from Sharon to Washington, D. C.

MONTGOMERY COUNTY: *Removal*—Leon Reidenberg from Ashland to Philadelphia. *Resignation*—Solomon Lesse, Norristown. *Death*—Alfred O. Gery, East Greenville (Jeff. Med. Coll. '93), Oct. 12, aged 75.

NORTHAMPTON COUNTY: *Death*—George W. Heck, Northampton (Hahn. Med. Coll. '07), Dec. 9, aged 59.

NORTHUMBERLAND COUNTY: *Resignation*—Henry J. Whitaker, Pitman, N. J. *Death*—Charles W. Rice, Northumberland (Med.-Chi. Coll. '02), Nov. 24, aged 62.

PHILADELPHIA COUNTY: *Transfer*—Walter J. Sener, Media, to Delaware County Society. *Resignations*—Howard C. Taylor, Jr., New York City; J. Edward Berk, Philadelphia; Stuart Mudd, Haverford; Benjamin Gruskin, New York City. *Deaths*—Solomon Seilikovitch, Philadelphia (Med.-Chi. Coll. '93), Nov. 17, aged 75; Swithin Chandler, Philadelphia (Univ. Pa. '92), Dec. 10, aged 70; Thomas J. Fleming, Philadelphia (Univ. Pa. '94), Nov. 23, aged 68.

SCHUYLKILL COUNTY: *Death*—Arthur B. Fleming, Tamaqua (Med.-Chi. Coll. '02), Dec. 21, aged 68.

WARREN COUNTY: *Removal*—Herman C. Rogers from Sugar Grove to Fanwood, N. J.

WASHINGTON COUNTY: *Death*—Ralph E. Cummings, Bentleyville (Univ. Pgh. '08), Dec. 28, aged 55.

YORK COUNTY: *Death*—Joseph S. Miller, York (Coll. Phys. & Surg., Baltimore, '80), Dec. 8, aged 84.

Net gain in membership during December ... 44

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since Dec. 2. Figures in first column indicate county society numbers; second column, State Society numbers:

Dec. 2	Lebanon	1-3	65-67	\$30.00
	Philadelphia	1-25	68-92	250.00
4	Lawrence	78	9162	10.00
5	Fayette	1-2	93-94	20.00
	Columbia	1-4	95-98	40.00
9	Montgomery	17-42	99-124	260.00
	Washington	142-143	9163-9164	20.00
10	Huntingdon	1	125	10.00
	York	1	126	10.00
	Montgomery	43-64	127-148	220.00
11	Delaware	4-5	149-150	20.00
	Columbia	43	9165	10.00
	Columbia	5-10	151-156	60.00
	York	2	157	10.00
12	Luzerne	1-2	158-159	20.00
13	Greene	1-2	160-161	20.00
	Greene	29-30	9166-9167	20.00
14	Montgomery	65-79	162-176	150.00
16	Wayne-Pike	24	9168	10.00
	Lycoming	42	177	10.00
	Centre	1-2	178-179	20.00
	Venango	57	9169	10.00
	Erie	172	9170	10.00
	Erie	1-13	180-192	130.00
	Montgomery	80-84	193-197	50.00

Dec. 16	Montgomery	85-89	198-202	\$50.00
	Montgomery	250	9171	10.00
17	McKean	1-5	203-207	50.00
18	Lawrence	1-2	208-209	20.00
	Beaver	107-108	9172-9173	20.00
	Lycoming	2-41, 43-50	210-257	480.00
	Bedford	1	258	10.00
	Franklin	1-3	259-261	30.00
20	Lackawanna	263-264	9174-9175	20.00
	Lehigh	173-179	9176-9182	65.00
	Allegheny	1, 3, 31-246	262-479	2180.00
	York	3-18	480-495	160.00
	Montgomery	90-100	496-506	110.00
24	Warren	1, 3	507-508	20.00
	Northampton	4	509	10.00
	Venango	59	9183	10.00
27	Cambria	1-6	510-515	60.00
	Somerset	1-5	516-520	50.00
30	Somerset	40	9184	10.00

VAN METER PRIZE AWARD

The American Association for the Study of Goiter again offers the Van Meter Prize Award of \$300 and 2 honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the association which will be held at Boston, Mass., May 26, 27, and 28, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed 3000 words in length; must be presented in English; and a type-written double-spaced copy sent to the corresponding secretary, W. Blair Mosser, M.D., 133 Biddle Street, Kane, Pa., not later than Apr. 1.

The committee, who will review the manuscripts, is composed of men well qualified to judge the merits of the competing essays. Brien T. King, M.D., of Seattle, Wash., received the award for the year 1940 in recognition of his essay entitled "A New and Function-Restoring Operation for Bilateral Abductor Cord Paralysis."

A place will be reserved on the program of the annual meeting for presentation of the Prize Award Essay by the author if it is possible for him to attend. The essay will be published in the annual proceedings of the association. This will not prevent its further publication, however, in any journal selected by the author.

A CHALLENGE—SEARCH THE PAGES

The editorial conferees are convinced from their preview of the contents of this issue of *The Pennsylvania Medical Journal* that its pages offer to the inquiring diagnostician and therapist stimulating case reports, authoritative clinical reviews, and sincere differences in professional opinion. Why not accept the challenge? Read the issue from cover to cover including our advertisers' pages and those of all contributors, reporters, and commentators, then forward to the *Journal* office your constructive criticisms and suggestions looking toward a *Journal* increasingly helpful to an increasing number of readers.

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COUNTY SOCIETY REPORTS

ADAMS

Dec. 4, 1940

The regular meeting of the society was held at 9 p. m. in the Annie M. Warner Hospital, Gettysburg. Seventeen members were present.

Owing to the failure to receive the films on tuberculosis contracted for, only routine business was transacted. One new member was admitted.

As usual, refreshments were served after adjournment.

HENRY STEWART, *President.*

BEAVER

Dec. 12, 1940

The society held its final meeting of the year at the Penn-Beaver Hotel, Rochester, at 3:30 p. m. The meeting was followed by dinner. At the business session, it was voted to omit assessments for the county society benevolence fund for the next year since the need which prompted the establishment of this fund 2 years ago no longer exists.

The following officers were elected for the ensuing year: Philip F. Martsolf, New Brighton, president; Henry S. Kerchner, Ambridge, first vice-president; and J. Willard Smith, Beaver Falls, secretary-treasurer.

On the scientific program, Glenn C. Camp discussed a patient with idiopathic hyperpyrexia, whose recovery was finally hastened by encouraging the patient to be up and around, and Andrew W. Culley described a case of advanced pregnancy complicated by severe *Ascaris lumbricoides* and *Trichuris trichiura* infestation, which was successfully treated with hexylresorcinol.

JOHN H. GEMMEL, *Reporter.*

BERKS

Nov. 12, 1940

The monthly meeting of the society was held at Medical Hall in Reading. The attendance record of all time was broken with 100 members and guests present. The president, Charles E. Lerch, introduced the guest speaker, Perrin H. Long, professor of preventive medicine at the Johns Hopkins University Medical School, Baltimore, Md. The topic was "The Therapeutic and Prophylactic Use of Sulfanilamide and Its Derivatives."

Dr. Long said in part: Because of adverse publicity due to its earlier indiscriminate use, before thorough study made this drug safe, physicians have too long been overcautious about the administration of sulfanilamide and its 2 related compounds. Care must be taken to employ the drug which is best for the condition being treated. The diagnosis made governs the form selected for administration.

Sulfapyridine or sulfathiazole administration should be begun as soon as the clinical diagnosis is made in pneumonia. A blood count made in the home is not always reliable. Sputum specimens are preferable. If no sputum is available, it is imperative to start treatment immediately without waiting for some to collect in order to perform the Neufeld test, because delay

while waiting for the report of a culture or sputum typing before starting administration of the drug may seriously affect the prognosis. The age of the patient governs the preferred form. In a young patient practically nothing of import ever happens; this is not the case after age 50. The best advice is to proceed with caution.

The assimilation of the drug is also a determining factor in choosing the proper form. Given orally, approximately 90 per cent of sulfanilamide is absorbed within 4 hours and it is almost completely excreted by the kidneys; no renal difficulty occurs except very rarely. The absorption of sulfapyridine when given orally is irregular; it differs with the individual. Many times this compound changes to its conjugated or acetylated form, which is inactive. This compound is toxic and injurious to the kidneys, both directly to the epithelium of the tubules and glomeruli and indirectly by forming crystals and producing renal calculi. Sulfathiazole is well absorbed, excreted rapidly, and not abnormally conjugated in most persons because it is excreted rapidly.

The comparative power of the form also governs to a certain extent which drug is to be administered. In hemolytic streptococcal infections, sulfanilamide and sulfapyridine are equal in their action, but sulfanilamide is preferred to sulfapyridine. Sulfathiazole is only one-half as effective in hemolytic streptococcal infections.

For peroral administration, sulfanilamide is preferred in the following conditions: chancroid, gas gangrene, hemolytic streptococcal infections, *Streptococcus viridans* and meningococcal infections, venereal lymphogranuloma, trachoma, and certain urinary tract infections. Sulfapyridine is preferred in gonococcal infections, such as arthritis, endocarditis, gonorrhea of the male and female, and ophthalmia; this form is preferred in pneumococcal infections, such as mastoid, influenza, and otitis media; it is also selected in staphylococcal infections of the meninges. Sulfathiazole is preferred in *B. coli* infections, in gonococcal infections (arthritis and male gonorrhea), in pneumococcal lobar pneumonia, in staphylococcal infections such as carbuncle, cellulitis, osteomyelitis, pneumonia, and septicemia, and in urinary tract infections from *B. aerogenes*, *B. pyocyaneus*, *B. coli*, *Staphylococcus albus*, and *Staphylococcus aureus*.

Sulfathiazole is not so nauseating in highly integrated patients and is therefore preferable, but it does not lower the temperature as rapidly as does sulfapyridine. Sulfathiazole should not be used in mild staphylococcal infections because of its toxicity; it is best to use this drug only in serious staphylococcal infections where it is worth while to take a chance on its toxicity. Drain all purulent areas. The use of sulfanilamide and its derivatives is contraindicated in acute rheumatic fever and in chronic sinusitis. They are of no value in rheumatoid arthritis.

Patients with burns and fractures may have sulfanilamide administered to them by mouth for preventing infections, especially from the gas bacillus. Five to 15 Gm. may be sprinkled into the open wound of a compound fracture. Siblings of a scarlet fever patient may be given small doses of sulfanilamide for one week to prevent infection. Fifteen to 20 grains of sulfanilamide

per day may be given from October 1 to June 1 to a rheumatic fever case in the quiescent stage in order to prevent recurrence. Sulfanilamide prevents otitis media and mastoid infections if given very early in the disease (earache stage).

The administration of sulfanilamide is thus: 0.10 Gm. per kilogram of body weight is given as the initial dose, and the daily maintenance dose is the same divided by 6 and given every 4 hours. Mild infections require no initial dose. The drug should be continued in severe infections for 7 days after the temperature has returned to normal and for 5 days after normal temperature has been established in mild or moderately severe cases.

In pneumococcal pneumonia sulfathiazole should be administered. Adults should be given 4 grams as an initial dose and 1 gram every 4 hours thereafter until the temperature has been normal for 72 hours. Children and infants should be given an initial dose of 0.15 Gm. per kilogram up to 25 kilograms of body weight. The daily dose is the same divided into 4 and given every 6 hours, day and night, until the temperature has been normal for 48 hours.

In meningococcal infections, it is not necessary to give sera and sulfanilamide. In patients with a severe attack of pneumonia, both the sera and sulfathiazole are recommended.

Toxic reactions vary. Any of the following may appear: nausea and vomiting, dizziness, psychoses, neuritis, cyanosis, acidosis, fever, rash, hepatitis, leukopenia with granulocytopenia, acute agranulocytosis, mild hemolytic anemia, acute hemolytic anemia, hematuria, anuria with azotemia, hyperleukocytosis, conjunctival and scleral injection, purpura hemorrhagica, ocular and auditory disturbances, jaundice, painful joints, stomatitis, and gastro-intestinal disturbances. Stop the drug and force fluids only in the event that there is nausea and vomiting, dizziness, cyanosis, acidosis, mild hemolytic anemia, hyperleukocytosis, and gastro-intestinal disturbances. Do not stop the drug on the occurrence of fever, rash, psychosis, neuritis, hepatitis, leukopenia with granulocytopenia, acute agranulocytosis, acute hemolytic anemia, hematuria, anuria with azotemia, conjunctival and scleral injection, purpura hemorrhagica, ocular and auditory disturbances, jaundice, painful joints, and stomatitis.

Sulfaguanidine, a new compound not yet on the market, is soluble in the intestinal tract, but not well absorbed. This drug appears to be effective in bacillary dysentery. Another compound not yet released will probably be called sulfadiazine. This does not conjugate as readily as sulfapyridine; it is a superior drug for Friedländer's infection.

PEARL E. HACKMAN, *Reporter*.

BLAIR

Dec. 17, 1940

The regular meeting of the society was held in Altoona with President Charles S. Hendricks presiding.

After disposal of the regular business and election of officers, a "Symposium on Fractures" was conducted by Joseph D. Findley, Joseph C. Mattas, and Francis I. Taylor.

Dr. Taylor opened the discussion with a very concise and informative outline of the important features in the diagnosis and early care of fractures. It was pointed out that, although a fracture is primarily dissolution of bone, frequently the damage done to the surrounding

soft structures is of the greatest importance in the eventual course. Too much haste in moving patients from the site of the accident frequently aggravates surgical shock which too often causes a fatal outcome.

Dr. Mattas then took up the discussion of complicated fractures. He confined his remarks to the cause, course, and management of delayed union, nonunion, and malunion of fractures. By means of roentgen-ray films of exemplary cases, Dr. Mattas was able to demonstrate many of the results obtained by the methods discussed.

Dr. Findley discussed the general treatment of fractures, especially the more common and important fractures encountered in general practice. He covered fractures of the clavicle in different age groups, and then discussed Colles' fracture and the management of fractures of the hand. In discussing the latter, stress was laid upon the final outcome in the event of medico-legal adjustments.

Following the symposium a general forum on the subject was held by the members of the society.

R. MARVEL KEAGY, *Reporter*.

CHESTER

Nov. 19, 1940

A regular meeting of the society was held at the Kennett Square Golf and Country Club.

William Bates, of Philadelphia, the guest speaker, discussed "The Diagnosis and Treatment of Parietal Neuralgia." The diagnosis has been difficult in the past and numerous operations have been done suddenly because this has been overlooked, and many of the pains postoperatively have been attributed to adhesions when the entire illness was due to neuralgia. When the symptoms return after an operation, it is not a case of adhesions unless there has been interference with the function of a hollow viscus.

The nerves generally involved are the last 6 intercostals and the first lumbar. Neuralgia of these nerves is a symptom complex and not a disease. Infection of the upper part of the respiratory tract, trauma, and poor posture are the common etiologic factors, and usually two of these are present. This condition can be distinguished from visceral pain by having the patient tense the abdominal wall by raising the head and heels. If the tenderness persists, the pathology is in the wall rather than beneath it.

In doubtful cases of appendicitis this symptom complex can be ruled out by block anesthesia of the ilioinguinal and iliohypogastric nerves. The needle is inserted one inch from the anterior superior spine on a line toward the umbilicus. Novocain in the paretics will not stop the pain of appendicitis.

Because the first lumbar nerve supplies the hernia region, a neuralgia may simulate the pain of early hernia.

Posture is always an important consideration. Where there is scoliosis, there is a muscle spasm at the points where it begins and ends. This leads to mononuclear infiltration, chronic infection, and parietal pain. Novocain in the posterior root an inch lateral to the vertebral body will relieve this pain. One should beware of novocain where there is a large pupil, for this often denotes the sympathetic type.

A new drug known as serapin, a product of the pitcher plant, is promising because it cuts out sensory impulses without interfering with motor conduction. It may be used for infiltration about the nerves or be given intraspinally.

Dr. Bates demonstrated his talk by an electrically wired manikin which flashed lights when the needle was in contact with the nerves, and produced a buzzing note of warning when the pleura was touched. This manikin also showed graphically, by means of lights, the distribution of various peripheral nerves.

The society was deeply appreciative of the entertaining and informative talk by Dr. Bates.

A regular business meeting followed Dr. Bates' address. The report of the Executive Committee was accepted in its entirety. A brief summary of this report follows:

1. Financial arrangement for care of the practice of physicians away in military service:

a. Each physician, on being called, is to give his name and future address to the secretary of the society, also designate the individual receiving income from his practice.

b. The society is to be notified of a physician's call to military service and the area of his practice outlined.

c. Fifty per cent of money collected from patients of an absentee physician is to be turned over to dependents by the Preparedness Committee.

d. When a physician returns to active practice, the remaining physicians are to refuse medical care to his patients whom they have attended for a period of one year.

e. All appointments held by a physician when he leaves for military service are to be made available upon his return.

f. The Preparedness Committee is to settle disputes with the approval of the Executive Committee and the county society.

2. Only 69 per cent of the members of the Chester County Medical Society have answered the A. M. A. questionnaire.

3. Preschool children are to be immunized against diphtheria, pertussis, etc., by the family physician; no charge is to be made when the family is unable to pay.

4. The Executive Committee deeply appreciates the co-operation and active support of the Woman's Auxiliary in matters of public betterment.

Dec. 17, 1940

A regular meeting of the society was held at the Homeopathic Hospital in West Chester. The members of the society were luncheon guests of the homeopathic physicians.

G. Harlan Wells, professor of medicine at Hahnemann Medical College of Philadelphia, spoke on "The Treatment of Congestive Heart Failure." He first discussed the symptoms and physical signs. He especially stressed the treatment with various members of the digitalis group—Digitalis purpurea and lanata, digalen, urginin, digoxin, digitaline native, and strophanthin, and described how there were certain advantages to each drug. He also mentioned xanthin and the mercurial group of drugs.

A business meeting followed Dr. Wells' talk.

Because of the need for more physicians to serve as Selective Service Examiners, it was decided that the present group of examiners should serve as a committee to nominate others.

A letter was read which urged more co-operation among the physicians in filling out the state pneumonia cards.

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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph. Gon. & Ven. Dis., 23, 201 (March) 1939.

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The society adopted the report of the Executive Committee in its entirety. A brief summary follows:

1. There are still 24 physicians in the county who have not returned the questionnaire of the Medical Preparedness Committee. They are urged to do so at once.

2. Physicians called into military service may have their dues refunded.

3. The Medical Defense Committee recommends the immediate extension of the Red Cross setup to the southeastern part of the county.

4. The Board of Managers of the Chester County Hospital is opposed to the hospital ward insurance plan as now proposed.

5. The Second Councilor District is to be invited to hold its annual meeting in Chester County next September.

6. The society is opposed to the State Department of Health's activities in making free roentgen-ray examinations of those on the government payroll.

7. Diabetes is the subject for the Public Health Commission this year, with Henry Pleasants, Jr., chairman.

LOUIS S. BRINGHURST, *Reporter*.

LEHIGH

Nov. 12, 1940

The society held its regular monthly meeting at the Hotel Traylor, Allentown, at 8:30 p. m. George T. Pack, assistant professor of clinical surgery of the School of Medicine, Yale University, and of Cornell University Medical College, was the guest speaker. He presented a paper entitled "The Treatment of Cancer of the Stomach by Gastric Resection."

Gastro-enterostomy for the relief of carcinoma of the stomach has only a slightly lower operative mortality than has the operation of exclusion of the cancer-bearing distal portion of the stomach (27 per cent as compared to 28 per cent). The cancer-infected organ frequently bleeds and causes belching and vomiting of foul material if not removed.

If the cancer-bearing stomach has become adherent to the pancreas, the affected portion of the pancreas is removed with the stomach. The greater omentum is removed with the stomach if the lymph glands are involved along the lesser curvature. The duodenal stump is closed carefully in 3 layers and anastomosis to the lower portion of the stomach is effected.

Resections of the stomach should preferably be done by a surgeon who does many of these operations, and he should be acquainted with all types of resections and use the type which is best adapted to the type, size, and location of the growth.

The mortality can be lowered by educating the public to consult the physician and surgeon early enough for complete exclusion by excision.

Dec. 10, 1940

The society met at the Sacred Heart Hospital, Allentown, at 8:30 p. m. Three papers were ably presented by local physicians.

Joel Nass presented "The Ambulatory Treatment of Common Lesions of the Rectum." Dr. Nass reviewed the anatomy of the anal canal with a slide and black-

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OTOLARYNGOLOGY—Two Weeks Intensive Course starting April 7th. Informal and Personal Courses every week.

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board drawing showing the crypts of Morgagni, the anal papillae, the sphincter, and the white line of Hilton. Then he discussed the method of injecting novocain with adrenalin to produce a painless and bloodless operative field.

Hemorrhoids were classified as internal, mixed or prolapsing, and thrombosed or external. Dr. Nass advised first the injection of phenol in oil, then the excision and the removal of the blood clot. He said that polyps can be removed with a snare and the base coagulated with short wave coagulating current.

Fissures were classified as acute and chronic. The acute ones are injected with nupercaine in oil, which results in cure because the spasm of the anal sphincter is removed. Chronic fissures are injected with novocain and adrenalin and the hard thickened edges are trimmed away with sharp scissors.

Infected crypts are also injected and opened.

Abscesses were classified as marginal and ischioanal. The site of incision is first infiltrated with novocain and adrenalin. Then the abscess is well incised and packed with gauze. The packing is removed in 4 to 5 days and the site of excision irrigated with potassium permanganate solution. If the abscess is deep or ischioanal, a groove director should be introduced to make sure it is not a fistula. If a fistula is present, a silk thread should be passed from the outer opening into the intestinal opening and tied loosely. The abscess should be permitted to drain freely for 10 to 12 days through the generous incision, then the fistula should be excised.

The postoperative treatment for all these conditions consists of mineral oil by mouth beginning on the third day, frequent sitz baths, and local cleanliness.

Harold S. Payer spoke on "The Use of Analgesics in Obstetrics." The gist of his talk follows:

Severe pain is not necessary in childbirth, and it is the duty of obstetricians to give the maximum relief without sacrificing the safety of the mother or baby. The necessity of delving into this problem is brought out by a recent investigation of the Philadelphia County Medical Society, which shows that from 1931 to 1936 the general mortality decreased 24 per cent, but that the preventable death rate increased 52 per cent, and the death rate due to errors in judgment and technic of the physician has risen 108 per cent.

The suitability of each particular agent was considered in regard to safety, amnesic, analgesic, and anesthetic properties, the effect on contractions of the uterus, the advantages or disadvantages in special cases, the untoward reactions, the constitutional effects, and the effects on fetal respirations.

There is no drug or drugs which can relieve all the pain of labor, but we can with safety relieve a great deal of pain in the first stage and almost all of the pain of the second stage. Very little or no anesthesia or analgesia should be given in premature deliveries, as premature infants do not tolerate sedatives very well. In contemplating anesthesia for an obstetric patient, the possibility of aspiration pneumonitis should be kept in mind and the patients should not be fed for several hours previous to the termination of labor. In most cases it is wise to give divided doses of an analgesic drug in the first stage of labor and an inhalation anesthetic or local anesthetic in the second stage.

Unfortunately, it is too often true that the accoucheur is too interested in getting his patients to sleep or their babies delivered. Thus, very soon after the baby is

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born, the physician is confronted with gaping lacerations, a relaxed uterus, hemorrhage with ensuing shock, or a deeply narcotized baby. Under these circumstances, if the attendant does not possess sufficient ability, fatality often ensues. These facts should leave us all with open minds in answering the patient's question: "Doctor, what will be done to eliminate my labor pains?"

1. Tell her that you fully sympathize with her desire for relief of pain, and that you are familiar with and use in labor the various known methods.

2. Tell her that it is preferable to select the drugs which seem best adapted to the situation and type of pain only at the time of labor.

3. Tell her that at all times you are considering her safety and that of her baby as paramount.

With this reasonable assurance, most normal patients come to the time of delivery with calm and are prepared to accept a moderate and safe degree of analgesia.

In this manner and almost without exception under such conduct the patient passes through labor and delivery in a much better condition than do those unfortunate who are drugged to an unconscious state, thereby making their labor a blank chapter in their lives and very often followed by a lifetime of regrets for both mother and attending physician.

Various methods of amnesia, analgesia, and anesthesia are considered as possible factors in the unfortunate increase in intra partum deaths. Spinal anesthesia and chloroform are to be condemned in obstetric practice. The barbiturates are not as free of danger as was formerly thought; they often cause reactions, restlessness in patients, and furnish a poor base for operative anesthesia. Sodium pentobarbital orally with codeine hypodermically, repeated in 2 to 3 hour intervals as deemed necessary by the physician until dilatation is complete, is widely used. The use of ether and oil is also best adapted to the first stage of labor. It may decrease uterine contractions if given too near labor or too freely during delivery, and may be followed by postpartum pneumonia or hemorrhage. Nitrous oxide inhalation anesthesia is frequently used to advantage during the end of the second stage of labor. It may be accom-

panied by poor relaxation, anoxemia of the fetus, and postpartum hemorrhage.

Local anesthesia induced by the injection of 5 to 2 per cent of novocain (total 1.25 Gm.) with adrenalin into the perineum has 14 advantages and no disadvantages. A 23-gauge needle, 12 centimeters in length, is inserted into the fourchette and injection is made in a radiating manner until the entire perineum is infiltrated. The needle point is also directed to the spine of the ischium and along the ischiopubic rami if an episiotomy with repair and forceps delivery is contemplated.

Paul C. Shoemaker presented a paper entitled "The Endocrinologic Explanation of a Common Phenomenon." Dr. Shoemaker has a large medical practice, and while studying his cases he has been in the habit of classifying them. For many years he has found quite a large group of female patients who have the following common characteristics:

1. A general feeling of lassitude and ill-being.
 2. A subnormal to a normal temperature of the skin of the extremities.
 3. The patients are never of the vivacious type.
 4. There is always the persistence of a tiny râle-like sound for a few seconds after holding the chest wall quiet in full inhalation.
 5. There is always an abnormal menstruation. More commonly it is scant and of short duration, but occasionally absent after an artificial or natural menopause.
- The pathologic explanation arrived at in these cases was that an improper functioning of the glands of internal secretion was responsible for an alteration in the general metabolism. The late B. C. Hirst was able to relieve dysmenorrhea by cocainization of the upper part of the nasal septum. This proves that there is a relationship between the endometrium of the uterus and the epithelium of the respiratory tract. Another example of such a relationship is the case of the honeymoon cold (when the nares become congested because of a uterine congestion caused by an unaccustomed and perhaps frequent stimulation) or the amenorrhea of tuberculous patients.

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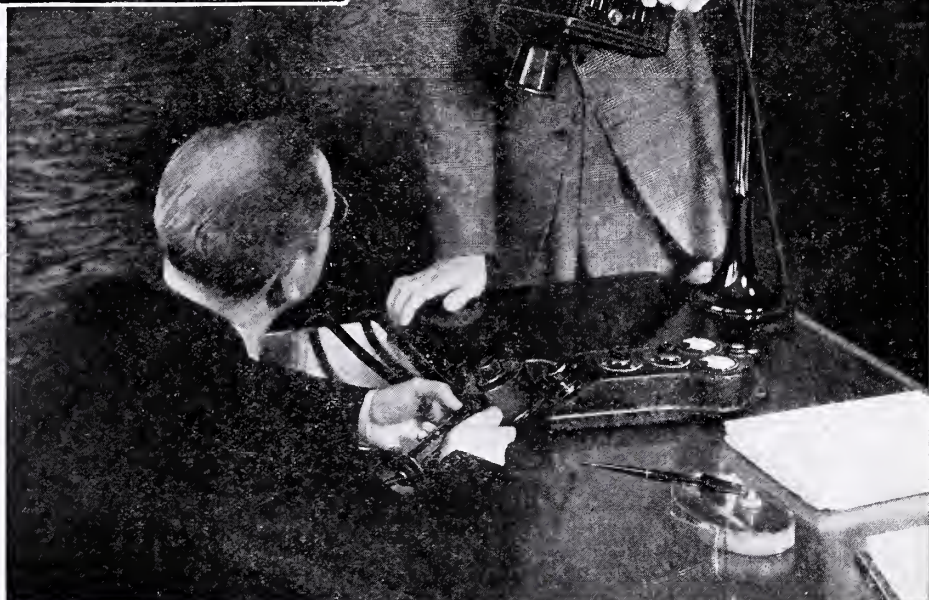
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Dr. Shoemaker is fully convinced that whenever he finds a persistence of fine râles for a few seconds after the chest is held quiet in full inspiration, the patient will also have an abnormal passive congestion of the uterus causing a scant, short menstruation or amenorrhea because of an alteration of the internal secretions. To date he has been able to relieve some of these patients (asthmatic) with perandren-Ciba (male sex hormone) and (for headaches associated with uterine cramp) with the various factors of the anterior pituitary gland.

ANNA M. ZIEGLER, Reporter.

LYCOMING

Dec. 13, 1940

The regular monthly meeting of the society was held in Medical Hall, Williamsport Hospital, at 1:30 p.m. Frederic C. Lechner, president, presided. Following a short business session, Dr. Lechner introduced Wm. Edward Chamberlain, professor of radiology at Temple University School of Medicine, Philadelphia.

Dr. Chamberlain chose as his subject "Delayed Reduction of Fractures," since this method of handling fractures has caused a great deal of discussion in medical circles. Dr. Chamberlain first explained the procedure followed in his institution.

Regardless of the time or day a fracture patient is admitted to the hospital, no attempt is made at that time to reduce the fracture. Should it be compound, careful cleansing of the skin and surrounding tissues is performed, appropriate toxins and antitoxins are given, and the affected part is immobilized completely with plaster, with a minimum amount of soft dressing being placed between the skin and the plaster. If this is done, soft tissue swelling does not increase to the usual extent. In questionable cases, roentgenograms are taken to complete the diagnosis. The patient is then placed in bed, if not ambulatory, and no further treatment save general rest is given until the following Tuesday, when the Fracture Clinic is held. At that time the portions of the cast covering the fracture site are removed, allowing some of the cast to remain both distally and proximally.

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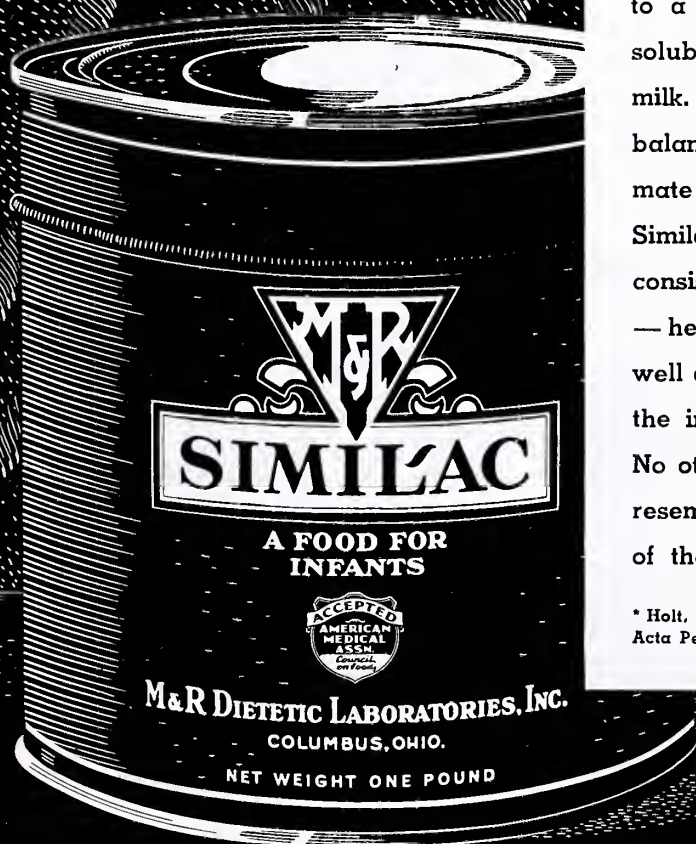


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not only the setting of the fractured bones but also the taking of roentgenograms in the proper positions. This latter equipment obviates the necessity of turning the patient to obtain a good exposure with the danger of dislodging the approximated fragments. Dr. Chamberlain, John R. Moore, professor of orthopedic surgery, and their assistants are always in attendance at this clinic, hence the patients receive the most competent advice available in the institution.

It has been found that this method has several primary advantages. First, it secures for the patient the services of the men in attendance at a time when they are completely fracture-minded and not rendered less capable by other duties or by the disturbance of their sleep or relaxation. Second, it permits complete discussion and examination of the involved cases by more than one individual. Third, it permits accurate teaching and renders a large number of the varied types of fractures available to those attending the clinic. They have also found that in no single instance have they felt that mortality was increased or that morbidity was prolonged. They have further found that there is little union of any fracture during the first 8 days, hence there is no new growth to interfere with accurate healing. They have also determined that, if the injured parts are immobilized, after a few days the soft tissue swelling is reduced to an extent which makes reduction much simpler than it would ordinarily be, with the result that there is less trauma to the blood vessels and nerves of the affected area.

In short, under their technic they feel that this is an ideal method for the treatment of fractures, and the only objection is the necessity of convincing the referring

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physician and the patient alike that valuable time is not lost and that the patient is not being neglected in postponing the actual reduction.

Dr. Chamberlain then displayed numerous slides which illustrated the technical difficulty in securing accurate roentgenograms of certain fractures and also the excellent results obtainable by the use of certain measures at present in use in his department.

Your reporter must agree that, under the circumstances mentioned by Dr. Chamberlain this method seems almost ideal, yet certain words of precaution are necessary before its use becomes generally adopted. First, the roentgenologist must be thoroughly familiar with and interested in the work. An unskilled man is worse than none at all, because of misleading reports which he may give. Second, the roentgen-ray and fracture rooms should be combined so that the proper reduction is not displaced during movement of the patient. Third, the patient must be watched carefully and any evidence of general or local infection must be determined immediately.

It is easy to understand, however, how this method may ultimately prove to be of extreme benefit to patients suffering fractures. It requires but little imagination to picture the thousands of cases, injured in either military or civil accidents, who could be handled more satisfactorily with the broken bones simply immobilized on the spot and then transported over long distances to a central clinic. Many of us will follow further reports from this clinic with great interest, and it is probably not too optimistic to say that, if their results continue to be as satisfactory as they are at present, this method will well prove to be the one adopted in the future.

The society is greatly in Dr. Chamberlain's debt for this interesting talk and we are sure that his words of

caution and instruction will prove of great benefit to our members and to our patients.

EDWARD LYON, JR., *Reporter.*

LUZERNE

Dec. 4, 1940

The regular meeting of the society was held in Wilkes-Barre with President William Baurys, of Nanticoke, presiding. Bertha Roger, of Wilkes-Barre, was elected to membership. A very interesting paper on "Congenital Abnormalities of the Peritoneum" was given by Frederick W. Heyer, Nanticoke. Isaac Humphrey illustrated the paper with timely motion pictures.

Dr. Heyer said, in part, that for more than 100 years many physicians such as Hunter, Meckel, and Fleischman have described congenital malformations of the abdominal viscera and peritoneum. Some of the conditions are a result of developmental defects. Reports occur from time to time and one especially by Dr. Flint in 1912 described bands about the cecum and appendix. Impairment in the descent of the cecum was described definitely, and Dr. Mayo recently said he believed some of the bands were parietal peritoneum. Some even called Jackson's membrane bands of the parietal peritoneum.

A classification of the bands as to location and viscera are involved in this discussion. Since 1919 Dr. Heyer has studied the literature about these bands and has gathered much clinical and necropsy material. The deductions from these are as follows:

1. These congenital bands are evolved from embryonic defects. Dissection of fetuses was done in order to obtain this information. Fetuses as early as 4 to 6 months were used.

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2. These bands are found in any part of the abdomen, but principally about the cecum, appendix, ascending colon, hepatic colon, and very commonly in the pelves of women. Twenty years ago a Boston surgeon reported 11 cases with symptoms suggesting a retrocecal appendix. A short time after operation the pain began as before. At a later operation, bands were found and the condition was then relieved.

3. The incidence of the bands is high, as much as 90 per cent in abdominal operations. Dr. Robertson, of Toronto, and others preparing treatises are defending prophylactic appendectomies. Dr. Flint is in favor of making a large incision in appendectomy operations so that the viscera can be thoroughly examined for bands and these removed. Palpation of the gallbladder will often reveal bands. Typhalgia is the term used by Dr. Dean Lewis instead of chronic appendicitis. Many patients return with severe pain after an appendectomy. He believes it is a neurosis and that the patient should be turned over to an internist. The pain may be due to the peritoneal bands about the cecum. Four cases of Meckel's diverticulum were demonstrated in a small hospital outside of Wilkes-Barre in one week. It may be common if it is looked for. This is also true if the peritoneal bands are looked for.

4. A deduction is that these bands may be primarily a causative factor in appendicitis, gallbladder disease, or intussusception. Impairment of peristalsis causes the severe pain in appendicitis. Fecaliths are formed, which cannot be expelled, then acute congestion is caused, with edema. With treatment the pain may subside, but at some future time there are recurrences of pain. The patient may or may not be operated upon before the appendix ruptures depending upon many circumstances.

Similar bands may hinder the action of the gallbladder, the residual bile causing calculi. They are occasionally seen in children as early as age 6. Recently, a young woman was seen who never had gallstone colic, but stones were seen by roentgen ray and the gallbladder had no emptying power. Bands are seen fixing the cecum as well as retrocecal ones. The bands are usually congenital defects.

5. A deduction is that the bands may be hereditary. Many authors have written about tight garments, or armor, or tight lacing causing constriction of the abdominal contents and the formation of bands.

Albert G. Gibbs, of Nanticoke, said this topic was a hobby with the essayist for many years and he enjoyed the evolution of the subject. William F. Connell, of Pittston, said that bands occur in the abdomen, and when they are found in young children they certainly must be congenital.

MARJORIE E. REED, *Reporter*.

MONTGOMERY

Dec. 4, 1940

The regular meeting was held in the Society Building at Norristown, with President Henry D. Reed presiding. The attendance was 59. It was voted to remit the dues of members called to military service.

Howard Childs Carpenter, of Philadelphia, presented a paper on "Respiratory Diseases of Children." A description of the anatomy and physiology of the respiratory system was followed by a discussion of the peculiarities of physical diagnosis in pediatric practice.

The common cold was considered—its bacteriology, its seasonal incidence, and the question of the duration

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of immunity. Methods to be used in the prevention of complications, or their treatment if they do occur, were outlined.

Acute tonsillitis was then discussed, and the importance of not diagnosing it as appendicitis was noted. In every case of severe tonsillitis it was emphasized that a culture, or at least a smear, should be made.

The pneumonias were then considered. It was stated that Types XIV, XIX, and XXIII are most common during infancy. The apex of the right lung is most frequently involved. The temperature remains constantly high, and the character of the pulse is of more importance than the rate. Cyanosis should be looked for, as it is an unfavorable sign. The duration of pneumococcal pneumonia is short, lasting usually only 5 or 6 days. The physical signs which are of most importance are dullness and a diminution of the breath sounds. With the temperature drop the high leukocyte count decreases at the same time. The most common complication is empyema, which occurs in about 8 per cent of the cases and may occur as early as the fourth day.

Since the advent of sulfapyridine there has been a great reduction in the mortality. The few fatal cases occur usually during infancy and deaths are rare in the older children. Sulfapyridine not only shortens the course of the disease but greatly lessens the occurrence of complications. It apparently destroys the pneumococcus in 24 hours; however, it would seem best to continue the drug for 4 days after the temperature subsides. In infancy a blood level of 4 milligrams per 100 c.c. is effective. In the treatment, 1 grain of sulfapyridine per pound of body weight per 24 hours is effective, but the dose should never exceed 80 grains a day. Daily hemoglobin estimations and leukocyte counts

are desirable, for if a neutropenia develops, the drug should be discontinued. Sulfathiazole is also used and has the advantage of causing less discomfort, such as vomiting and diarrhea, than does sulfapyridine. Sulfathiazole is a safe drug and is easy to administer to young children.

Fluids must be given freely. Saline alone is adequate, but additional glucose should be given if there is any ketosis. If the extremities are cold or any cyanosis is visible, oxygen must be administered or stimulants such as caffeine or epinephrine.

WALLACE W. DILL, *Reporter.*

SCHUYLKILL

Jan. 7, 1941

At the regular monthly meeting held in Pottsville, the following officers were elected to serve for 1941: President, Peter B. Mulligan, Ashland; first vice-president, Wilton R. Glenney, Pottsville; second vice-president, William A. Jacques, Ashland; secretary, Charles V. Hogan, Pottsville; treasurer, Gilbert F. Bretz, Pottsville; censor, Robert W. Lenker, Schuylkill Haven.

In addition, final reports were made by the various committee chairmen, who gave a summary of the work done during the past year in their respective fields. The Necrology Committee presented an obituary on Arthur B. Fleming, secretary of the society for 18 years, who died Dec. 23, 1940. President Charles V. Hogan read his valedictory address and inducted his successor into office.

A motion picture on "Infections of the Hand" comprised the scientific program of the afternoon.

T. LAMAR WILLIAMS, *Reporter.*



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VENANGO

Oct. 18, 1940

The regular meeting of the society was held in Oil City with the president, Donovan C. Blanchard, of Franklin, presiding. After the usual dinner, the business meeting was held, at which time Franklin P. Phillips, of Franklin, talked for a short time on the filling out of questionnaires for the county society to facilitate medical preparedness.

Ford M. Summerville, of Oil City, delegate to the annual meeting of the State Medical Society, gave a report.

The scientific meeting was given over to the discussion of heart disease. Harry H. Lamb, of Oil City, traced the invention of the electrocardiograph and described the present-day instruments. He mentioned that the taking of a careful history in a cardiac case is just as important as taking an electrocardiogram. The electrocardiogram is a laboratory procedure and therefore only one link in a chain of evidence. He illustrated by lantern slides the electrocardiographic findings in the normal heart, heart block, auricular flutter, auricular fibrillation, and coronary disease.

Kelse M. Hoffman, of Franklin, also discussed heart disease. He mentioned that, with the modern methods employed in cardiology, it is possible to tell patients whether they do or do not have heart disease. Today the cardiologist has eliminated the so-called armchair philosophy in the diagnosis of heart disease. In the past, and in a great many instances at present, individuals are told by their physician that they have a weak or nervous heart. Such a diagnosis usually does nothing more than scare the patient, and causes a great many normal individuals to become cardiac neurotics.

Dr. Hoffman further discussed the dangers of attempting to diagnose people's heart conditions by very superficial examinations, and not delving deeply into the history concerning dyspnea, pain, palpitation, and bradycardia. He cited instances in which patients had been told 20 or more years before that they had a weak heart and during all those years they were semi-invalids with constant fear of impending death.

After a proper cardiac examination, the physician should be able to give answers to the following: (1) etiology of the condition, that is, whether it is hypertensive, rheumatic, syphilitic, congenital, or otherwise; (2) the exact structural defect, that is, whether there is enlargement, valvular defects (which valves are affected), coronary artery involvement, or congenital structural involvement; (3) the mechanism of

conduction, that is, whether it is normal or arrhythmic (if arrhythmic, whether it is fibrillation, flutter, block, or otherwise); (4) heart tolerance, that is, whether the cardiac muscle reacts favorably or unfavorably to exertion. If all these questions cannot be answered, an inadequate examination has been made.

Dr. Hoffman illustrated electrocardiograms of various types of organic heart disease by lantern slides.

Nov. 15, 1940

The meeting was held in Franklin with President Blanchard presiding. After the usual dinner, the election of officers was held, at which time the following were elected: Cecil H. Hodgkinson, Oil City, president; Garrett C. McCandless, Franklin, vice-president; and Harry H. Lamb, Oil City, secretary and treasurer.

Chester A. Nordstrom, of Franklin, spoke on "The Fundus of the Eye." He said that the fundus reflects many of the general degenerative diseases. He described the so-called albuminuric retinitis, and stated that it occurs not only when there is albumin but frequently in all types of cardiovascular and renal diseases, and also in diabetes. He described the picture of choked disk, and stated that this condition is due to a brain tumor in 80 per cent of cases, but all brain tumor cases do not show a choked disk.

John M. Askey, of Oil City, discussed the use of the newer chemotherapeutic agents in infections of the upper part of the respiratory tract. He described these various infections and stated that, generally speaking, otolaryngologists have not had a great deal of success in the treatment of acute and chronic sinusitis with the use of sulfanilamide and its related compounds. Some good results have been reported in the treatment of chronic maxillary sinusitis by the injection of 5 c.c. of neoprontosil into the sinus cavity after it has been washed out.

Dec. 20, 1940

The meeting was held in Oil City. As has been the custom for many years, the December meeting was arranged by the Woman's Auxiliary. Mrs. Cecil H. Hodgkinson of Oil City was in charge of the arrangements.

There was no business or scientific discussion. The tables and rooms were decorated in keeping with the holiday season, and a turkey dinner was served to the physicians and their ladies. The entertainment consisted of community singing led by William F. Brehm, several numbers rendered by a quartet composed of George B. Jobson, John L. Hadley, Kelse M. Hoffman, and

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As containers, Appert suggested glass containers sealed by corks; the reason given is that glass is the "matter most impenetrable by air" (1). In 1810, one year after Appert's discovery was announced, Peter Durand, an Englishman, patented a procedure very similar to Appert's, which covered the use of a variety of containers, among them "vessels of tin (tin-plated iron)." From that time forward, the use of tin-plated containers rapidly progressed.

Commercial canning began in America about 1819. In 1825, Kensett and Daggett, two pioneers of canning in this country, received an American patent covering the use of tin-plated containers. Shortly thereafter, the name "tin can" was coined from the abbreviation of the formal name, "tin cannisters."

The story of the development of the tin can in America is an absorbing one which has been related in more detail elsewhere (2, 3, 4). By the time of the war between the States, the "hole and cap" type of can had been evolved. About 1890, can-making machinery was introduced to replace the

older hand-manufacturing operations whereby a skilled artisan could produce about 6 cans per hour. Modern can-manufacturing lines operate at speeds as high as 350 cans per minute.

The first three decades of the current century witnessed the development of machinery to make the modern type or "sanitary style" can now universally used for fruits, vegetables, and a wide variety of other products. The past ten years have brought vast improvements in the tin plate from which cans are made. Not long ago, almost any type of sheet steel was considered satisfactory. Today plate for cans must comply with rigid physical and chemical specifications established by the Research Laboratory of the can manufacturer.

As far as can be determined, tin containers were first introduced to avoid breakage which was experienced with the glass containers proposed by Appert. The other desirable characters of the tin container for foods were not fully appreciated at first; among these advantages should be mentioned its rapid rate of heat transfer, its low weight in relation to its capacity, and its opacity to light. Nor was the importance which the tin can has attained in our national life fully appreciated until world developments caused America to pause and take inventory. Only then was it generally realized that from its humble start 130 years ago, the tin can has risen to become an indispensable article in our modern civilization.

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| (2) 1937. The Canning Clan. E. C. May, The Macmillan Co., New York. | (4) 1940. The National Geographic Magazine, November, p. 659. |

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William F. Brehm, and several readings by Miss Meehan of Franklin.

WILLIAM F. BREHM, *Reporter*.

WARREN

Dec. 16, 1940

The society was addressed by two of the younger members, Robert L. Taylor and Harry W. V. Beals, both of Sheffield.

Dr. Beals, the first speaker, gave a very comprehensive summary of the present-day application of endocrinology to gynecology. The treatment of the various disorders associated with menstruation, such as amenorrhea, dysmenorrhea, and the menopause, with pituitary and ovarian gland products was outlined. The uses of thyroid and suprarenal gland extracts and products from the urine of pregnant mares and corpus luteum were also given in detail, and some of the contraindications were mentioned.

Dr. Taylor spoke on "Analgesia and Anesthesia in Obstetrics." He said that it seems to be the present-day opinion that a woman in labor should be given all the analgesia that she can stand without injury to her or the child. Cerebral injury may be caused by asphyxia if the second stage of labor is prolonged by excessive analgesia.

The advantages and disadvantages of various analgesics were commented upon. Some drugs are more valuable than others, but are more expensive and require special technic in their use. Therefore, they are less applicable in general practice. Spinal anesthesia in cesarean operations has been found to produce less asphyxia. Rectal anesthesia and the use of the barbiturates with or without anesthetics were outlined.

Both talks were helpful in bringing to the members the latest ideas on these subjects.

Three new members of the State Hospital staff were accepted as members of the society.

Twenty-eight members were present at the meeting. The hosts at the dinner which followed were Drs. Riddelsperger, Valone, VerMilyea, Yerg, and Young.

On Dec. 12 the members of the Woman's Auxiliary entertained their husbands at the residence of Jacob F. Crane in North Warren. After a supper, various games were played. The members of the auxiliary brought dressed dolls to be distributed to children of the underprivileged.

MICHAEL V. BALL, *Reporter*.

WASHINGTON

Oct. 9, 1940

In the absence of President Clarence J. McCullough, the usual pre-meeting dinner was dispensed with. Forty members and 2 visitors were present.

The meeting was held at 8:15 p.m. in the Oval Room of the George Washington Hotel, Washington, with the vice-president, George L. McKee, presiding.

The secretary read a request from the Woman's Auxiliary to support their project of putting on 4 children's plays during the winter, to be played by a cast from Pittsburgh, the proceeds to be used in the support of worthy causes.

John P. Henry, of Mercy Hospital, Pittsburgh, addressed the society on "Diseases of the Peripheral Arteries and Veins." Dr. Henry said that a more exact title for his talk would be "Systemic Diseases Which Manifest Themselves by Peripheral Signs and Symptoms." He said in part:

The circulatory supply of the extremity can be divided into 3 types—arterial, venous, and lymphatic. When the arterial supply is insufficient, the extremity becomes atrophic and cold. When the venous supply is involved, the extremity becomes swollen and painful. When the lymphatics are blocked, the extremity becomes swollen, but the circulation is intact.

In arteriosclerotic deficiency, arteries are affected here and there, never in a regular order. Diabetic infection promotes arteriosclerosis.

Thrombo-angiitis obliterans, or Buerger's disease, is a recurrent inflammatory state involving both arteries and veins; it is recurrent with a tendency to thrombosis and obliteration of the end-arteries.

Under vasospastic disorders comes Raynaud's disease. True Raynaud's disease is very rare, but all physicians frequently see Raynaud's phenomenon, namely, "an easily excitable vasospastic disorder involving fingers and sometimes toes."

Traumatic vasospasm is extremely important. Two cases were mentioned in which one man lost 3 toes, and another, one toe, following severe blows over the popliteal artery.

Arterial embolism is a common condition. It is usually found in a patient who has a marked endocarditis. He is usually a fibrillator, and because of that shakes off the atheromatous plaques, and they lodge in the bifurcation of the femoral artery—25 per cent at the bifurcation of the iliacs and 10 per cent at the popliteal space.

In embolism the leg should never be elevated; put it down and let gravity exert as much force as it can. External heat should not be used, as a limb in which the blood supply is cut off has little resistance to heat. Burns are likely to result. In this condition, don't elevate the limb, don't apply heat, and don't delay. The patient may be given papaverine chloride ($\frac{1}{4}$ grain) directly into the vein with good effect. He should be hospitalized as soon as the physical state will permit.

In Sweden, embolectomy is done as casually as an appendectomy in the United States, and with as little mortality. Expose the femoral artery immediately. Put a rubber tube on either end of the mass and pull it up. Incise directly over the mass. Lift the embolus out with forceps. Release the flow of blood from above. Repair the vessel. Immediately after the clot is removed, the arterial tree will fill out, the tempera-

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ture will increase, and the patient will make a good recovery if the heart is not too badly damaged. Operation should be performed less than 6 hours after the onset of symptoms, never more than 10, for the clot by that time is so firmly fixed that it is hard to remove.

Thrombo-angiitis obliterans is found in the 30 to 40-year-old male. Raynaud's phenomenon is found from age 15 to 30. The former is thought to be more prevalent among Hebrews, but Dr. Henry does not believe this is true. Raynaud's phenomenon occurs in all nationalities.

Arteriosclerosis is usually unilateral. Ulceration is early in arteriosclerosis and late in Buerger's disease. The peripheral pulses are small or absent in arteriosclerosis, absent in Buerger's disease, and normal in Raynaud's phenomenon.

The treatment of these diseases is important, and the most important item is to cut out tobacco. Tobacco has a marked influence on the vascular tree. One cigarette will lower the temperature of the great toe 2 to 4 degrees in a room temperature of 72 degrees. A case has been reported of an arteriosclerotic who had to stop playing golf because of intermittent leg pains. He quit smoking and later was able to play 9 holes of golf without marked distress.

Another item is to guard against fatigue. Routine care of the feet is also important. They should be guarded against trauma, even on the part of the chiropodist. Postural exercises are helpful. Sitz baths, too, are important, for they increase the arterial supply and keep the skin and tissues in a healthy state.

Relief of pain is important; morphine has no effect. The barbiturates give the most relief. We prefer secenal or nembutal. Alcohol is of use because it relaxes the sympathetics, especially in Buerger's and Raynaud's

disease. Vitamin B is a valuable adjunct in the treatment of vascular disease.

The Pavex machine is worthless, or even harmful, because of the tight cuff around the thigh which might bruise the vessels. A simple blood pressure manometer, raised to about diastolic pressure, not sufficient to occlude the arteries, but only the veins, will do the work better.

A bed which rocks slowly, alternately elevating and depressing the affected limb, and not interfering with the patient's rest, has been used with some success.

Dr. Henry spoke at some length on the question of treatment of varicose veins. He emphasized the necessity of determining the presence of a deep circulation before obliterating the superficial circulation. He also mentioned the solutions advisable for use in obliteration. The 4 solutions popular at present are urethane and quinine, varisol, sodium morrhuate, and monolate.

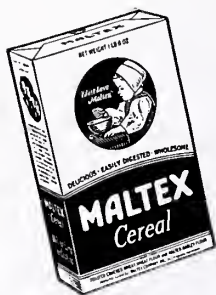
Following this address, Milton F. Manning and James H. Corwin gave brief but interesting accounts of the annual meeting of the State Society held in Philadelphia, which was attended by 11 members of this society.

Nov. 6, 1940

The meeting was held as usual in the Oval Room of the George Washington Hotel, Washington, preceded by a dinner for the members. Thirty-three members and 2 visitors were present.

Marshall M. Lieber, associate in pathology at Jefferson Medical College, Philadelphia, spoke on "The Newer Concepts on the Mechanism of Inflammation and Shock—Some Practical Considerations." An abstract follows:

Increased knowledge concerning the capillaries and



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their reactions has contributed greatly to the understanding of circulatory phenomena that were heretofore enigmatic. Investigations in recent years have formed the basis upon which the modern concepts, particularly of inflammation and shock, have been constructed. Any agent or condition injurious to capillary endothelium increases its permeability, allowing plasma to escape into the tissue spaces. The mechanism by which inflammation results has been elucidated only very recently.

The prevailing opinion is that leukocytosis, either local or systemic, is an indication of infection. Such is not the case. Leukocytosis is a physiologic reaction to injury. Local accumulations of leukocytes occur whenever and however the living tissues are damaged.

The mechanism by which cell proliferation is initiated, governed, and terminated has received little attention. The brilliant researches of Carrel and his associates have contributed most of this information.

Inflammation is the vascular and cellular reaction to an injury manifested in a local area. Shock is the vascular and cellular reaction to an injury manifested in systemic areas.

Shock following battle wounds without injury to vital structures or serious loss of blood was a major problem in the field hospitals and casualty clearing stations of the allied forces during World War I. The British Research Committee organized an investigation of the nature, mechanism, and management of shock. Cannon summarized the individual reports and correlated that material with information from other sources. This gave rise to the theory of "traumatic toxemia." The profession was content with this theory and accepted it without question until serious doubt was cast upon it by the more recent investigations of several groups.

Beginning in 1927, Blalock and his associates published a series of papers on experimental shock. The conclusions drawn were that it was not practical to separate hemorrhage and shock. They could find no evidence indicating the absorption of substances from areas of injury which would affect the circulation systemically and concluded that shock can be satisfactorily explained as resulting from loss of blood and fluid at the site of trauma. In one series of experiments, they stated that the loss of extravasated blood and fluid in traumatized areas averaged 3.66 per cent of the body weight. This would be equivalent to an average loss of 30 per cent of the total volume. More recently, Blalock has admitted that when death occurs 24 hours or longer after burns, the absorption of toxic substances is probably a factor in shock.

A second group of investigators states that hyperactivity of the sympatho-adrenal system is the major cause for shock. Many workers have shown that large doses of ephedrine will produce circulatory failure accompanied by hemoconcentration and by the congestive and edematous changes in the viscera characteristic of shock. This is logically explained as resulting from the prolonged vasoconstrictor effect of the drug.

Various stimuli such as pain, fright, or other strong emotions, burns, trauma, anesthesia, and the effects of certain drugs cause hyperactivity of the sympatho-adrenal system. This is characterized by arterial vasoconstriction with high arterial pressure, increased blood sugar, pallor, dilated pupils, perspiration, and other signs. Each of these features is present in the early stages of shock.

In view of these facts, it is held that hyperactivity accompanied by prolonged arterial contraction causes shock by the same mechanism as large doses of epinephrine. This hypothesis is based on sound physiologic principles and is in harmony with many of the known facts regarding shock.

In the management of shock, prevention is most important. There are certain features of this problem that require emphasis.

The practice of giving saline solution intravenously before the patient leaves the operating room is logical and should be practiced more generally. If shock is probable, a blood transfusion is indicated immediately, either administered in the operating room or as soon as the patient is returned to bed.

The direct application of even moderate heat causes dilatation of skin capillaries. This further increases the total volume capacity of the vascular system and accentuates the effects of the decreased blood volume, which is a major factor in shock when present. Furthermore, perspiration is to be avoided, for salt solution lost in this manner is not replaced readily when the mechanism for fluid absorption is deranged because the capillaries are atonic. Caution in the use of heat must not prevent its application to those who have been chilled as by exposure or wet clothing after an accidental injury.

After injuries, the arrest of hemorrhage is accomplished more safely by the application of pressure on the wound than by a tourniquet. If a limb is badly mangled and a tourniquet must be used, it should be set as close to the injury as possible and should be removed immediately when the bleeding vessels have been tied. If this cannot be done soon, the tourniquet

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should be left in place and the limb amputated proximal to it.

The use of a 5 per cent solution of tannic acid in burns has a sound physiologic basis.

In the treatment of circulatory deficiency, for many years physicians have noted the weak, rapid pulse, low blood pressure, and other evidences of failing circulation and ascribed it to a failing heart. All authorities are agreed that the deficiency is not cardiac.

The use of pitressin has been suggested because of its effects in producing contraction of the capillaries. Adrenal cortical hormones have been advocated in treatment, and a few reports of success are available, but further careful investigation is necessary before a proper evaluation can be made.

Oxygen is recommended. Anoxia in the blood and tissues is a factor of utmost gravity. Efforts to combat this are eminently commendable. Oxygen should be used more frequently than has heretofore been the custom, and it should be administered early before the circulatory deficiency becomes irreversible. Blood transfusion is undoubtedly the most effective measure available.

In conclusion, capillary atony is the fundamental and primary cause for shock. If this cannot be prevented or if its causes cannot be removed, no treatment may be expected to be effective. Shock should be anticipated. Its approach is signaled in advance by hemoconcentration which is so easily detectable. Hemoconcentration is the signal for immediate and intelligent action. Efforts to maintain blood volume and to prevent anoxia may be effective now, which if delayed until the blood pressure begins to decline are inevitably ineffective.

Following the address by Dr. Lieber, the applications of Charles F. Elterich and Grant E. Hess, Jr., for membership in this society were received.

President McCullough announced that, because all 3 members were engaged in medical defense work, the Healing Arts Committee had resigned and asked that their successors be appointed immediately. He said that this would be done shortly.

The Woman's Auxiliary conveyed their thanks through President McCullough for the society's support of their project of giving a series of children's plays.

ROBERT W. DUNLAP, *Reporter*.

WYOMING

Dec. 11, 1940

The last regular meeting of the year was held in Tunkhannock. The attendance was about the poorest for the year.

At an election of officers, the present officers were re-elected for another year.

Charles H. DeWan, of the Packer Hospital staff at Sayre, was the guest at the meeting. He was asked to discuss the various laboratory tests that the general practitioner might do in his office. An interesting hour was spent.

In reply to an inquiry from the State Health Department, the physicians of the county were of the opinion that there had been some increase in the number of infections of the upper part of the respiratory tract—above what is usual for this time of the year.

ARTHUR B. DAVENPORT, *Secretary*.

YORK

Dec. 21, 1940

The regular meeting of the society was held in the Professional Building, York. Hugo Roesler, cardiologist at Temple University Medical School, Philadelphia, spoke on the subject of "Errors in Cardiac Diagnosis." He said in part:

Underdigitalization nowadays is less common than formerly, yet it does occur, especially where there is auricular fibrillation with marked tachycardia, nausea, and vomiting; often in this triad the amount of digitalis given is inadequate. The electrocardiogram reveals an expression of digitalis in the tracing.

Overdigitalization is on the increase, whereas it was rarely seen formerly. The symptoms are poisoning, nausea, vomiting, disturbances of vision, personality changes and disorientation, and those symptoms formerly diagnosed as cardiopathic psychosis.

The arrhythmias were divided into 2 groups—those featured by a conduction fault, and those featured by increasing evidence of toxic irritability of the heart muscle. The first group give no serious concern, even when there is bradycardia, inasmuch as conduction disturbances disappear soon after digitalis is stopped. In the second group, where extrasystoles are first isolated, later coupled, and finally ectopic, many instances of digitalis poisoning become a serious complex.

Healthy patients with a sclerotic myocardium may respond abnormally to digitalis, which is entirely harmless to younger patients, especially the rheumatic cases.

Digitalis may appear in the edema fluid in the pleural and peritoneal cavities as well as in the extremities, for during diuresis the digitalis is mobilized and the heart and nervous system may be suddenly exposed to additional digitalis. It has been figured that during rapid

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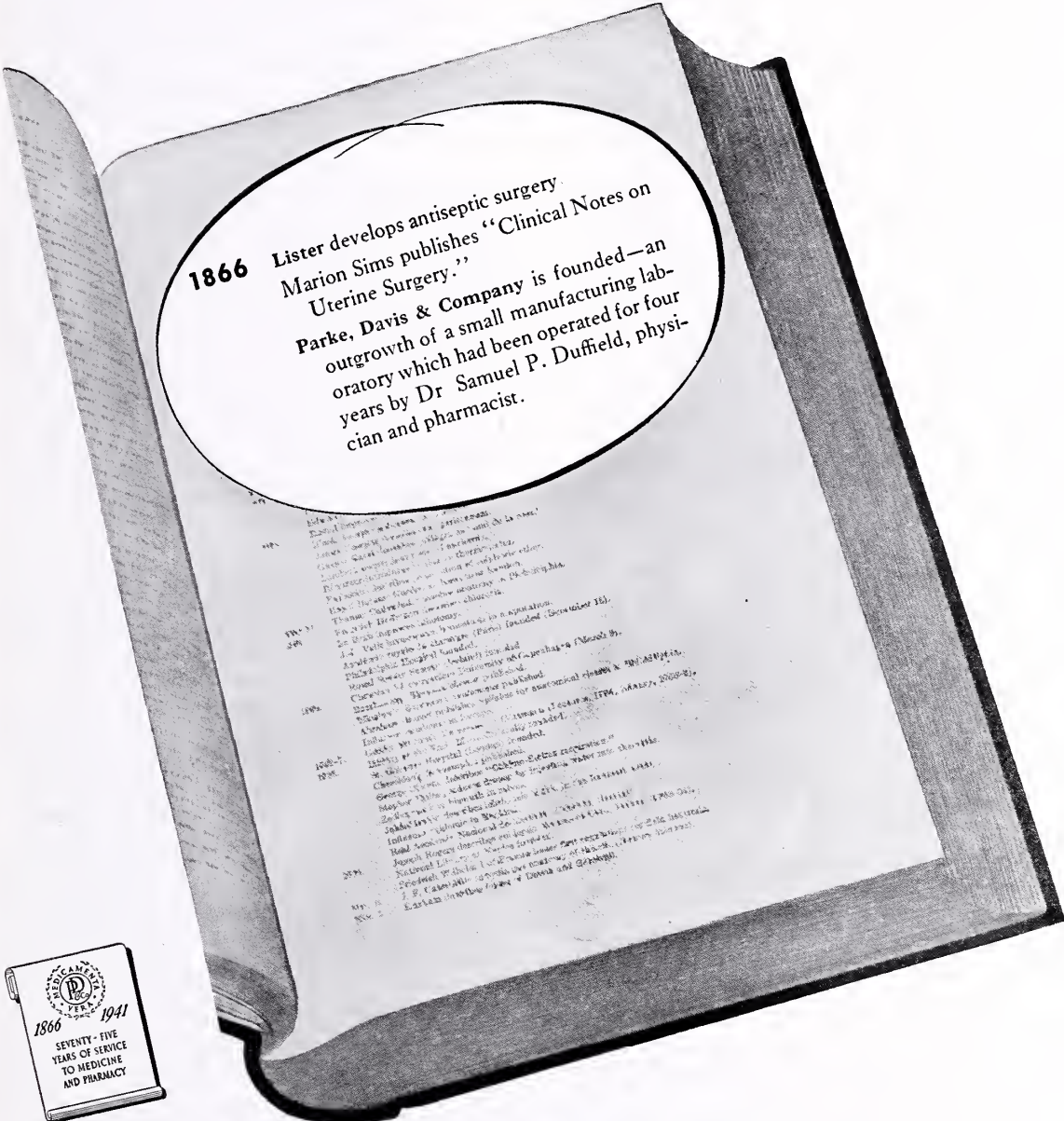
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diuresis $7\frac{1}{2}$ gr. of digitalis may be added during 24 hours to an already digitalized heart.

For digitalis poisoning, 2 drugs are available. One is quinidine; 20 gr. is given, equally distributed over 24 hours, not omitting night doses. The other drug is magnesium sulfate. The dose is 10 to 20 c.c. of 15 per cent solution intravenously, injecting the first 5 c.c. rapidly, the rest slowly. Calcium might be used, but it may be harmful in a patient who has been digitalized.

One must be on the lookout for Cheyne-Stokes respiration in heart patients. This type of breathing is more pronounced at night. Other patients cannot fall asleep; in the more severe cases a tormenting sleeplessness results. Hypnotics and narcotics lead to marked confusion. Aminophylline, given slowly intravenously in amounts of 4 to 12 gr. (10 to 30 c.c.), is a specific. If this drug causes excitation and the patient does not fall asleep, add a sedative or light hypnotic.

The physical examination is important. Frequently, the examiner finds that the heart sounds are weak or of poor quality. The idea that one can gauge functional efficiency by the loudness of the sounds is fallacious. Dulling of heart sounds is far more frequently due to obesity, emphysema, or both; it may be due to a feeble myocardium. In addition, the length of the A-V conduction time must be considered. In a school child, where slight enlargement of the heart is suspected and there is an apex beat in the nipple line or beyond, a slight degree of vertebral scoliosis may be the cause, and rotation of the heart causes displacement. In such cases, recognize the apical thrust and its cause.

Do not prescribe codeine and expectorants for the cough of chronic pulmonary congestion, as in mitral stenosis or left ventricular failure. With proper management, perhaps digitalis will help the cough. It should be remembered that extrasystoles may give rise to a tickling sensation in the throat.

As to thrombosis or embolism affecting the saphenous vein with reddening of the skin and perivascular infiltration of the smaller superficial branches of the leg or deep thrombosis in the calf muscles, in the latter (where it is clinically silent) there is no tenderness, discoloration, or swelling, but when the legs are dependent as in standing or sitting, the foot becomes blue, the ankle swells, and walking brings out changes. Here, the cause is thrombosis of the deep femoro-iliac veins. One must differentiate between arterial spasm and thrombosis.

When asthma occurs in a middle-aged or healthy person with hypertension or arteriosclerosis, it may be difficult to determine whether such an attack is of bronchial or of cardiac origin, since the mechanism of each is similar, viz., edema of the bronchial mucous membrane. Differentiate by sputum the response to certain therapeutic tests, such as carotid sinus pressure,

adrenalin, or adrenalin with pituitrin. Patients with true bronchial asthma may reveal considerable tachycardia in connection with adrenalin medication. Determine the blood velocity by injecting 5 c.c. of a 50 per cent saccharin solution into the antecubital vein and noting the time when a sweet taste appears. Normal blood velocity is 16 seconds; in cases of bronchial asthma it is delayed. Differential diagnosis is important. Ephedrine and adrenalin are not only useless but may cause damage in failure of the left side of the heart. Morphine, valuable in heart asthma, is strictly contraindicated in bronchial asthma; the respiratory center in patients who are emphysematous is quickly paralyzed by morphine and coma or pneumonia may ensue. Adrenalin may cause a further narrowing of narrowed coronary vessels when used in cardiac asthma and thereby precipitate coronary block.

Severe cardiac pain is due to marked diminution or lessening of the minute volume of blood which leads to relative anoxemia of the heart muscle. Thyroid given to obese patients may give rise to anginal pain, as the heart is speeded up. Cardiac infarction is commonly referred to by patients as indigestion, since the pain may be felt exclusively as pyrosis. Severe pain may be felt in the pit of the stomach and perforated ulcer may be suspected. Obtain an electrocardiogram tracing. Angina pectoris often shows a close relationship to food intake, and a few patients with coronary artery disease develop anginal pain upon walking or after a heavy meal. In advanced cases such pain may occur without physical effort. The stage of digestion is associated with considerable increase in minute volume. The appearance of pain following food intake often leads to erroneous diagnosis.

In discussion, Gibson Smith inquired as to the value of coramine as a heart drug. He also asked how to differentiate coronary occlusion and gallbladder pain. Harold P. Belknap asked about vitamin deficiency as a cause of heart disease. Lawton M. Hartman spoke of the advisability of closer co-operation between the electrocardiologist and the heart clinician.

In conclusion, Dr. Roesler said that coramine is of no value as a heart drug but is best used as a vascular stimulant in peripheral collapse. Where gallbladder pain is to be differentiated, recordings of the blood pressure are valuable, and a diastolic pressure at or above 100 mm. would suggest a previously high pressure. In coronary occlusion, the inversion of the T wave may not occur for several days, making serial electrocardiograms necessary. Many conditions not due to cardiac infarction produce an inverted T wave. The speaker cautioned against the use of electrocardiograms without a complete history so as not to condemn a patient unjustly to a bad prognosis.

JOHN J. CONROY, *Reporter.*

A CHALLENGE—SEARCH THE PAGES

The editorial conferees are convinced from their preview of the contents of this issue of *The Pennsylvania Medical Journal* that its pages offer to the inquiring diagnostician and therapist stimulating case reports, authoritative clinical reviews, and sincere differences in professional opinion. Why not accept the challenge? Read the issue from cover to cover including our advertisers' pages and those of all contributors, reporters, and commentators, then forward to the *Journal* office your constructive criticisms and suggestions looking toward a *Journal* increasingly helpful to an increasing number of readers.

THE LEGISLATIVE COURSE OF A BILL IN THE GENERAL ASSEMBLY OF PENNSYLVANIA

The Bill Is Introduced in One House

The bill is presented in triplicate and signed by the member introducing it, the date of filing being entered thereon. The original copy of the bill is for the use of the committee, the second copy is for the use of the printer, and the third copy is for the use of the members of the press.

In the House the bill is introduced by filing with the Chief Clerk who numbers it and gives it to the Speaker, while in the Senate the bill is read in place and presented to the Chair, also being numbered consecutively.

The Bill Is Referred to Committee

In the House the Speaker, after receiving the bill from the Chief Clerk, refers it to the appropriate committee and reports the committee assignment at the session following the day of presentation.

In the Senate the President, after the bill has been read in place and presented to the Chair, immediately refers the bill to the appropriate committee.

The Bill Is Printed

Following introduction, the bill is immediately printed on pink paper.

The Bill Is Reported from Committee

When the bill is reported from committee, it is reported as committed or as amended and placed upon the calendar.

The Bill Is Again Printed

Now the bill is printed on white paper. In printing amendments to the bill, whether made by the committee or on the floor, all new matter inserted is italicized and all matter eliminated is enclosed in heavy black face brackets.

The Bill Comes Up for First Reading

The bill is read at length on 3 different days. The first reading of the bill is agreed to without amendment or debate.

The Bill Is on Second Reading

The bill on second reading is subject to debate and amendment in any part. All amendments made to the bill are printed before final vote is taken.

The Bill Is on Third Reading and Final Passage

By unanimous vote the bill may be amended on third reading. After the bill has been agreed to on third reading, the vote on final passage is taken by yeas and nays, the names of those voting being entered upon the journal.

The Bill Is Forwarded to the Other House

Here the bill is subject to the same processes as a bill originally introduced in that House.

The Bill May Again Be Amended

If amended in the other House, the amendments must be concurred in by the House of origination by a vote of a majority of the members elected thereto, taken by yeas and nays, the names of those voting being recorded upon the journal.

The Bill May Go to Conference Committee

In the event of disagreement between the Houses, the bill is referred to a Conference Committee composed of 3 members from each House appointed by the respective presiding officers. The report of such committee must be adopted in each House by the vote of a majority of the members elected thereto, taken by yeas and nays, and the names of those voting recorded upon the journals.

The Bill Is Signed by the Officers

The presiding officer of each House, in the presence of the House over which he presides, signs the bill passed by the General Assembly, after its title has been publicly read immediately before signing. The bill is then forwarded to the Department of State.

The Bill Is Presented to the Governor

Presented to the Governor by the Department of State, the bill is usually referred by him to the Attorney General for consideration. If the Governor approves the bill, he signs it.

If the Governor does not approve the bill, he returns it, with his objections, to the House in which the bill originated, which House enters the objections upon its journal and proceeds to reconsider it. If after such reconsideration, two-thirds of all the members elected to that House pass the bill, it is sent with the objections to the other House, by which it is likewise reconsidered, and if approved by two-thirds of all the members elected to that House, it becomes a law. In such cases the votes of both Houses are determined by yeas and nays, and the names of those voting are entered on the respective journals.

If the bill is not returned by the Governor within 10 days after it is presented to him, it becomes a law in like manner as if he had signed it. But if the General Assembly, by reason of its adjournment, prevents such return, in such cases the bill becomes a law unless the Governor files it, with his objections, in the office of the Secretary of the Commonwealth, within 30 days after such adjournment.

The Bill Has Become a Law

The bill is filed in the office of the Secretary of the Commonwealth and prepared by the Department of State for printing as a law of the Commonwealth.—*Legislative Service Bulletin*, Pennsylvania State Chamber of Commerce.

THE SOFT-SOAP HAZARD

Beware of the days when all goes well; beware of the word of praise and the pat on the back, for all such things are fickle. But when Old Man Adversity knocks at your door, do not try to holler loud enough to drown the sound of his knocking. Ask the old croaker to come in and justify his visit. Be candid with him, strip him of his cloak of mystery, and find the purpose of his visit. From him you may learn much; but he is a peculiar sort of fellow in that the more you learn from him the less often he knocks at your door and the happier are your days.—*Journal of the Medical Society of New Jersey*.

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For the past few years Luzier's Fine Cosmetics have been exhibited at the National Convention of The American Medical Association and at various of the State Medical Conventions. In our contacts with your profession, Doctor, we have come to the conclusion that your chief interest in cosmetics seems to be with regard to allergy.

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THE WOMAN'S AUXILIARY

MRS. GEORGE C. YEAGER, *Editor*
1419 E. Susquehanna Avenue
Philadelphia, Pa.

EDITOR'S NOTE

Send the report of each meeting as soon as possible to Mrs. George C. Yeager, 1419 E. Susquehanna Ave., Philadelphia, Pa., chairman of publicity.

Leave a wide margin at the upper and lower ends and on both sides of each sheet of paper. Never use a pencil nor send newspaper clippings. Use one side of the sheet and space the lines well. Do not omit the date of a meeting.

Have all material in this office by the thirtieth of each month.

Send all county publications to Mrs. George H. Ewell, Madison, Wis., who is chairman of publicity of the Woman's Auxiliary to the A. M. A.

Read the pages devoted to the auxiliary in the State Medical Journal.

Report all councilor district meetings.

Thank you!

JESSIE W. (MRS. GEORGE C.) YEAGER,
Chairman of Publicity.

PRESIDENT'S LETTER

DEAR AUXILIARY MEMBERS:

The New Year is well launched and with it those resolutions which we have made. Here's hoping that, as an auxiliary, we have made many worth-while ones, all pertaining to the needs and ideals of our organization.

In looking back over the past few years, we can be very proud of our attainments. These are due entirely to the individual efforts of each member in each county auxiliary. You alone are responsible for all these strides in cementing the ideals of our organization. You as auxiliary members have presented many educational health programs to your communities. You have kept medical progress constantly before the public. You have made lasting friends among your own fellow members. You have shown a definite

interest in your community problems, and you have promoted a feeling of good comradeship among the physicians themselves.

Let us ever keep before us the hopes of the "land of the free and the home of the brave." Let us remember, always, that the physicians themselves are "toiling, sorrowing, rejoicing, as onward through life they go." This quotation may not have been meant for a physician, but it is reminiscent of his everyday life.

I am always pleased when I have the opportunity of visiting your auxiliaries. I enjoy your reports as do I also enjoy your very gracious hospitality. I hope I can visit each of you in turn. Until then, my best wishes are with you.

Sincerely yours,

MARY (MRS. MAXWELL) LICK,
President.

COUNTY AUXILIARY REPORTS

Allegheny.—The day of our last meeting of the year 1940 was cold, windy, and rainy, the kind of weather that encourages a "stay-in" feeling and a reluctance to venture far from one's home comforts; nevertheless we had a splendid attendance. The president, Mrs. Jay G. Linn, called the meeting to order at 1:30 p.m. Reports on finance, membership, and the Philadelphia convention were read.

Mrs. Joseph A. Soffel, membership chairman, presented the names of 16 new members; these were welcomed by the president. Mrs. Howard A. Power gave a graphic and interesting report of the Philadelphia meeting. All the guests of this eastern county medical auxiliary were entertained magnificently. Our auxiliary was represented at the convention by Mrs. Walter F. Donaldson, former president of the State Auxiliary, Mrs. David B. Ludwig, state chairman of archives, Mrs. Howard A. Power, state program chairman, and Mrs. John F. McCullough, state chairman of the budget.

At the close of the business session, Mrs. T. Gordon Ferguson, program chairman, introduced the past president of the State Society, Charles H. Henninger, M.D., who gave a brief talk on "Medical Preparedness." He stressed the need for the whole-hearted support of the auxiliary in whatever changes and needs the medical profession might be called upon to meet in any national emergency.

The remainder of the afternoon program was a musicale by Matilde McKinney, pianist of the Pittsburgh Symphony Orchestra.

Our second fall meeting closed with a friendly tea.

Beaver.—The auxiliary met in regular session, Nov. 21, in the Brodhead Hotel, Beaver Falls, where luncheon was served to 35 members. Mrs. John A. Mitchell, president, was in charge of the business meeting. At this time the auxiliary's annual gifts of \$50 each to the Passavant Home for Epileptics and the Beaver County Sanatorium were made, also a gift of \$100 to a family in whom the auxiliary is especially interested. A health bond in the amount of \$10 was purchased.

Mrs. James L. Whitehill, of Beaver, one of the delegates to the annual convention held in Philadelphia, gave a report.

Mrs. Thomas W. McCreary, program chairman, presented W. Clair Merriman, M.D., who gave an informative talk on "Immunization of Infections in Children."

Berks.—Looking forward to 1941, we pause to remember the night of Dec. 11, when our group met in Medical Hall, Reading, to celebrate Christmas. The Yule party, given for our husbands, was most enjoyable and the program was beautiful and impressive. Sprays of evergreens, poinsettias, and candles tastefully arranged decorated the hall. A gaily ornamented tree lighted the rostrum. Reflected in shining mirrors, red candles in silver holders, laurel, and red Christmas balls adorned the supper table which was covered with a red and white linen cloth.

Sixteen members of the Junior Choir of the First Presbyterian Church, under the able direction of G. Raymond Bechtel, presented a program of Christmas music and stories. Miss Jean Esterley read "The Lost Word" with sympathetic and spiritual interpretation. In lighter vein, Dr. Hartman, in Dutch costume, and Dr. Lerch, president of the medical society, in Santa Claus regalia, entertained with Pennsylvania Dutch songs, stories, and reminiscences of the "old days" in the medical profession.

Our group sang carols and a buffet luncheon was served. About 100 attended.

Chester.—The regular meeting of the auxiliary was held Nov. 19 at the home of Mrs. H. Bailey Chalfant, Kennett Square, with a very good attendance.

The knitting group met at 11 o'clock and were served a covered dish luncheon at noon.

The president, Mrs. J. Oscar Dicks, called the business meeting to order, and after the minutes were read and approved, the treasurer, Mrs. Chalfant, reported a balance of \$53.91, also the proceeds of the luncheon amounting to \$8.50.

The gavel was passed around for inspection so that each one might see the attractive inscription engraved on the silver band: "Presented to the Woman's Auxiliary to the Chester County Medical Society, July 21, 1936, by Sarah H. Mellor. Wood from Valley Forge Cherry tree."

Mrs. Kenneth Scott reported about 29 articles finished for "Bundles for Britain" in the Tuesday morning knitting group.

Mrs. Henry Pleasants outlined the programs for future meetings, the December meeting to be a Christmas luncheon meeting with an exchange of 25-cent gifts, and the January meeting to be a tea at the Chester County Hospital, when the members would sew for the hospital. February will be devoted to Red Cross work,

March to Social Service, and in May there will be a talk on the Needlework Guild. The annual banquet will be held in April when the members of the Chester County Medical Society will be our guests. In June the annual Reciprocity Luncheon will be held.

It was voted to turn over the remainder of the wool money derived from luncheons to the Red Cross. Various means of raising funds for the Medical Benevolence Fund were discussed, to be announced later.

The program of the afternoon was furnished by Mr. Everett C. Williamson, who showed us most unusual pictures on "Tuberculosis."

Mrs. J. Oscar Dicks and Mrs. Shepherd A. Mullin were hostesses to the auxiliary at the Christmas party held at the home of the latter on Dec. 17.

The knitting group met at 11 o'clock, with 15 members present. A covered dish luncheon was served at noon.

During the business meeting, Mrs. Dicks presided. Mrs. Robert C. Hughes reported one new member, Mrs. John M. Mras, of Embreeville. Mrs. Mifflin W. Mercer, of Downingtown, was appointed chairman of publicity, her duties to be assumed in January. Mrs. Dicks announced that the auxiliary had taken out a \$5.00 Red Cross membership since the last meeting. Three sweaters had also been knitted for the Red Cross. A letter from Joseph Scattergood, M.D., secretary of the Chester County Medical Society, expressed appreciation for the work accomplished by the auxiliary.

It was voted to use the proceeds of the luncheon, \$7.50, together with a gift of \$1.50, making a total of \$9.00, as a nucleus for the Medical Benevolence Fund.

The program of the afternoon was in charge of Mrs. Oscar J. Klevan, who read the short story, "Christmas," by Eleanor Roosevelt. After an exchange of Christmas gifts, the meeting adjourned until January.

Crawford.—The auxiliary was organized on Oct. 23, 1940, while the members were guests at the monthly meeting of the Crawford County Medical Society—a delightful dinner at the Titusville Country Club.

The November meeting was held at Town House, Meadville, on the twentieth, at which time the membership numbered 30. Dinner guests were Mrs. Maxwell Lick, of Erie, president of the State Auxiliary, and Mrs. James H. Delaney, district councilor, both of whom gave helpful advice and encouragement to the newly formed auxiliary.

Twenty enthusiastic members have formed a bowling league, known as "Medical Helpmeets' Duckpin League," meeting on Tuesday of each week, the proceeds from which activity will be added to the Medical Benevolence Fund at the close of the season.

Mrs. Vincent G. Hawkey, Meadville, president, graciously invited the members of the Executive Board to her home on Dec. 10, and they will continue to meet with her on the second Tuesday of each month.

The membership mark now stands at 50, with the names of several eligible women to be added in the near future.

Dauphin.—The auxiliary met on Nov. 19 at the Academy of Medicine, Harrisburg. Miss Myra Reeves, interior decorator, was the guest speaker. She discussed and illustrated color harmony in the home.

Mrs. William J. Albright was the hostess chairman for the meeting, and she was assisted by Mrs. Harold F. Lanshe and Mrs. David E. Hoff.

The Christmas meeting of the auxiliary was held at the Academy of Medicine on Dec. 17. Mrs. Robert L.

Myers gave an illustrated lecture on "Madonnas" from early times up to the present. Each member donated a toy; these were distributed to the children in the hospitals.

Mrs. R. Stanley Bank was the hostess chairman for the party which followed the meeting.

Franklin.—On Nov. 26 Mrs. Ira M. Henderson, president of the auxiliary, entertained the members at a luncheon at Homespun Inn, Chambersburg, after which the regular business meeting was held. The program for the year was formulated. Mrs. Henderson, delegate to the state convention, reported on the convention. Her report was well prepared and very interesting. She brought many inspiring ideas for the coming year.

Dec. 10 was the date set for the annual dinner at which the members of the Franklin County Medical Society are entertained.

Greene.—Mrs. Arthur T. Murray was hostess recently to the members of the auxiliary at her home in Nineveh. A short business session was conducted by Mrs. Thomas L. Blair, president of the auxiliary, during which time one new member, Mrs. William S. Knox, was taken into the organization.

The Rev. Daniel Hammill, of Prosperity, gave a highly interesting account of his latest visit to his native country, Ireland, and his experiences on his return trip home just after war was declared in England. Mrs. Hammill contributed to the program with a humorous reading, "The Lower Road," which concluded the program.

A social period followed, and refreshments were served.

Lackawanna.—On Tuesday afternoon, Dec. 10, the auxiliary had a delightful Christmas party and program. There was group singing of carols, led by Mrs. J. Norman White. Mrs. White also sang a number of Christmas songs, including "Gesu Bambino" by Pietro A. Yon. Mrs. Harold Conrad then read "The Doctor's Party" by Mary Frances Doner.

Approximately 75 members enjoyed the program and the "Christmas cheer." The buffet table was attractively decorated with red tapers, tree ornaments, and evergreen. Miss Gretchen Houser was in charge.

A business meeting preceded the party, with Mrs. Louis A. Milkman, president, presiding. Reports were given by officers and committee chairmen. A period of silence was observed in memory of Mrs. Franklin F. Arndt and Mrs. John A. Kachmarick.

Lehigh.—A Christmas story in song and story was presented at the December meeting held in the Woman's Clubhouse. Carolers from the Harrison-Morton school, directed by Mary C. Ward, offered 2 groups of songs. Miss Edith Davis, R.N., who is chief anesthetist at the Allentown Hospital, entertained with 2 readings, presented in costume.

Mrs. Elmer H. Bausch, president, conducted the business session. The auxiliary gave \$25 for one month's rent of the Girls' Haven and also took up an offering for their Christmas party fund.

The members joined in singing Christmas carols, accompanied at the piano by Mrs. Carl J. Newhart.



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V-11

Santa Claus in the person of Mrs. Charles R. Fox presented individual favors to all present.

A Christmas tea followed the program.

On Friday, Dec. 13, at 8 p.m., the auxiliary sponsored a card party in the Nurses' College at the Allentown Hospital. The ways and means committee, Mrs. H. Warren Endres, chairman, arranged the affair. The proceeds were donated to the fund collected by the Allentown Woman's Club for the purchase of a mobile kitchen for British war relief.

Northumberland.—The auxiliary was organized Dec. 11, 1940, at the home of Mrs. Charles M. Thomas, Sunbury. Twenty-five women were present and the newly elected officers were installed by Mrs. Charles C. Crouse, of Greensburg, president-elect of the State Auxiliary and chairman of councilors.

The officers are: Mrs. E. Roger Samuel, Mt. Carmel, president; Mrs. Peter A. Justin, Mt. Carmel, president-elect; Mrs. George M. Simmonds, Shamokin, vice-president; Mrs. Ronald McIntosh, Selinsgrove, recording secretary; Mrs. William B. Lewis, Shamokin, corresponding secretary; Mrs. Kramer, Selinsgrove, treasurer. Directors: Mrs. Isadore E. Smigelsky, Mt. Carmel; Mrs. James G. Strickland, Shamokin; Mrs. Charles M. Thomas, Sunbury; Mrs. Howard F. Straub, Selinsgrove; Mrs. Henry F. Ulrich, Middleburg; Mrs. Harvey C. Ennis, Northumberland.

Philadelphia.—The annual Christmas bazaar was held on Dec. 6 and was a great success, socially and financially.

In December we also had our Christmas party at our regular meeting, with a Santa who presented everyone with a gift. Carols were sung, and Dr. Joseph Fort Newton brought us an inspiring Christmas message. A delightful tea followed.

We contributed \$500 to the Philadelphia County Aid Association, also 20 baskets to our own less fortunate people. Our members made 225 nightingales, which were sent to the tuberculosis and cancer wards of the Philadelphia General Hospital. Toys were sent to 2 other hospitals.

The Juniors are very active and helpful at this time of year, and we are justly proud of this group. The membership committee is busy planning a membership drive.

Schuylkill.—One of the nicest of pre-Christmas parties was that held on Tuesday afternoon, Dec. 10, at the home of Mrs. J. Edward McDowell, by members of the auxiliary. Mrs. John W. Conrad, of Port Carbon, assisted by Mrs. William F. Horan, Jr., of Pottsville, arranged the novel program of entertainment enjoyed by auxiliary members and their guests. Approximately 70 women were present.

The home was beautifully decorated in the holiday colors and the tea table was especially beautiful, the centerpiece being an ingenious snow man.

The program was cleverly presented inasmuch as there was no announcing. A large sketchbook was placed on a high easel naming each feature as the various pages were turned. These features included carols by the group; a Christmas editorial read by Mrs. Martin O. Blechschmidt, Cressona; "Home-making" by Mrs. Newton H. Stein, New Philadelphia, and Mrs. McDowell, who briefly discussed needlework and cookie baking; "Between the Book Ends" by Mrs. Charles E. Peach, Pine Grove, who reviewed the 12 best sellers; a story, "The Madonna," by Mrs. John W. Conrad, who interpreted 2 pictures; "For the Chil-

dren," by Mrs. J. William Jones and her small daughter, Patty Bell, in which the beloved "Twas the Night Before Christmas" was read; and a fashion revue followed.

The Christmas party was one of the most novel as well as one of the most enjoyable affairs ever undertaken by the Schuylkill Auxiliary.

Washington.—The 1940-41 season of the auxiliary opened with a get-together dinner meeting for members and prospective members in the Y. W. C. A., Washington. The dinner was followed by a short business meeting. Complete plans for the theatrical productions which the auxiliary is sponsoring this season were discussed. The guest speaker on the program was Mrs. Guy Woodward, who gave a talk and showed colored motion pictures of her South American cruise. The meeting was well attended and enjoyed by all.

The October meeting was held at the home of Mrs. David H. Ruben, president. Reports of the advance ticket sale for the children's play were given. Reports of the state convention were given by Mrs. Laurie D. Sargent and Mrs. James H. Corwin. The guest speaker of the evening was Miss Ann G. Ruben, a member of the Washington Junior High School faculty, who reviewed the book, *World's End*, by Upton Sinclair. Members of the hospitality committee served during the social hour.

The outstanding meeting of 1940 was the annual public health meeting held Nov. 13 in the Chamber of Commerce rooms at the George Washington Hotel, Washington. The program was arranged by Mrs. Arthur W. Hopper in co-operation with Mrs. Alveina Thompson, executive secretary of the W. C. T. U. The principal speaker was Elliott B. Edie, M.D., of Uniontown, who discussed "Reactions to Illness." Two films were shown by Mrs. Thompson depicting the tuberculosis problems in different sections of the United States, the tests given, and the sanatoriums established in Pennsylvania. The second film was sent to the auxiliary by Mrs. Edna S. Kech. Another feature of the program was the enactment of scenes from the play "The Barretts of Wimpole Street," presented by Miss Mary Hopper and Edward Gibben, of Pittsburgh. This dramatic presentation given in costume was enthusiastically received.

Westmoreland.—The auxiliary held its monthly meeting at the Greensburger, Greensburg, Nov. 12, in the form of a dinner honoring all past presidents. Each of the guests of honor was presented with a handsome corsage. Tall candles and low bowls of fall flowers made the tables inviting.

After dinner a short business meeting was held, presided over by Mrs. Paul G. McKelvey, the president. Later, bridge was played and the prizes turned out to be the "white elephants" brought by members. Mrs. James F. Trimble was in charge of the committee on arrangements.

The past presidents honored were Mrs. Wilder J. Walker, Greensburg; the late Mrs. Hugh B. Barclay, Greensburg; Mrs. Henry A. McMurray, Youngwood; Mrs. Thomas B. St. Clair, Latrobe; Mrs. Louis J. C. Bailey, Sr., Greensburg; Mrs. John S. Silvis, Harrison City; Mrs. Charles C. Crouse, Mrs. Oscar B. Snyder, Mrs. Irwin J. Ober, all of Greensburg; Mrs. Joseph H. Watson, Jeannette; and Mrs. John H. Krick, Export.

The auxiliary met on Dec. 3 in the social rooms of the First Presbyterian Church, Greensburg. Mrs.

1/3 the Edema

showing the influence of hygroscopic agents in cigarettes on the membranes of rabbits' eyes.*



TYPICAL 1 + EDEMA

on instillation of smoke solution from Philip Morris Cigarettes. (Note extension of edematous nictitating membrane over the bulb.)



TYPICAL 3 + EDEMA

on instillation of smoke solution from ordinary cigarettes. (Note nictitating membrane more extended. Bulbar conjunctiva is raised and palpebral conjunctiva is edematous and redundant.)



NORMAL

CLINICAL CONFIRMATION:** When smokers changed to Philip Morris, every case of irritation of the nose and throat due to smoking cleared completely or definitely improved.

**Proc. Soc. Exp. Bio. and Med.*, 1934, 32, 241-245

***Laryngoscope*, 1935, XLV, No. 2, 149-154

Idea M. Portser and her committee were in charge and a spaghetti luncheon was served. Christmas decorations of pine and red and green candles made the setting.

Each member brought a gift nicely wrapped for the Children's Home, it being specified on the outside whether the gift was for a boy or girl and for what age approximately.

Mrs. Thomas Barret Quinn addressed the auxiliary on "A Typical Christmas Day at the Home" and reported with what pleasure the youngsters receive these "extra" presents. Minister of Music Shanko, of the First Presbyterian Church, played piano numbers and his Christmas music was much appreciated. A business meeting was held at the close of the program, presided over by Mrs. Paul G. McKelvey.

York.—A Christmas party was enjoyed by the members of the auxiliary on Tuesday afternoon, Dec. 10, in the Professional Building, York. Mrs. Elwood P. Flanders, the president, was in charge of a short business meeting.

The following committee was appointed to prepare a

poster for use at the state convention next October in Pittsburgh: Mrs. Maurice C. Wentz, chairman, Mrs. Norman H. Gemmill, Mrs. Hedley E. Rutland, Mrs. Edward J. Fisher, Mrs. Albert E. Deutsch, and Mrs. George E. Lentz.

Plans were made to decorate the children's ward at the York Hospital with wreaths and a Christmas tree. Each child in the hospital during the Christmas season was to receive a gift. Mrs. D. Haydn Stouch was chairman of the committee.

Mrs. Francis J. Snyder, chairman of the sewing committee, reported that 23 small pillow cases and 32 P. P. bags had been made at the York Hospital. Mrs. Parker N. Wentz, chairman of the sunshine committee, reported having sent 2 baby gifts and cards to 2 members who were ill.

The members of the auxiliary exchanged gifts and a social time was enjoyed. The room was tastefully decorated in keeping with the season. The hostesses were Mrs. Lau, Mrs. Hoover, Mrs. Hetrick, Mrs. Lentz, Mrs. Kalisch, and Mrs. Klinedinst.

THREE QUARTERS OF A CENTURY FOR PARKE, DAVIS & COMPANY

The year 1941 marks the Diamond Anniversary of the founding of Parke, Davis & Company, a firm which had its inception in a small drug store in the City of Detroit, Michigan, and which, during the past 75 years, has become one of the world's largest makers of pharmaceutical and biological products.

From the very beginning, back in 1866, Parke, Davis & Company has engaged in research work with the object of making available to Pharmacists and physicians medicinal preparations of the highest degree of accuracy.

In the early 70's, pharmaceutical progress meant the discovery of new vegetable drugs. Energetic and extensive explorations gave to the medical profession such valuable and widely used drugs as cascara and coca. Then, in 1879, came one of Parke-Davis's greatest contributions to pharmacy and medicine—the introduction of the first chemically standardized extract known to pharmacy. Desiccated thyroid gland, the first endocrine product supplied by the company, was introduced in 1893. One year later, Parke-Davis established the first commercial biological laboratory in the United States. In 1897 came the introduction of the first physiologically assayed and standardized extracts. And throughout these early years the fundamental Parke-Davis policy—precision in pharmaceutical manufacture—was crystallizing.

Since the turn of the century the progress of the company has continued apace. An aggressive program of research has been zealously pursued, marked by the introduction of such important medicinal products as adrenalin, ventriculin, theelin, pitocin, pitressin, mapharsen, neosilvol, antuitrin-S, meningococcus antitoxin, dilantin sodium, and many others. Diversified research activities cover the major phases of medical treatment—including the endocrine, biological, vitamin, and chemotherapeutic—and new discoveries are carefully evaluated through the company's extensive facilities for clinical investigation.

The company's home offices and research and manufacturing laboratories in Detroit occupy 6 city blocks on the Detroit river front, adjacent to the Detroit-Walkerville ferry, which connects the City of Detroit with the Province of Ontario, Canada.

A beautiful farm of 700 acres, known as Parkedale and located near Rochester, Mich., about 30 miles from Detroit, is utilized for the production of antitoxins, serums, and vaccines and for the cultivation of medicinal plants.

Through the use of full pages in leading national magazines Parke, Davis & Company are carrying on an advertising program that has attracted wide attention. As might be expected, their advertising is unique, ethical, and distinctive. They make no direct attempt to sell their products to the public by means of this publicity. In a sincere effort to render a valuable service to the medical profession, they are running a striking series of messages based on the "See Your Doctor" theme, and physicians throughout the country are constantly experiencing evidences of the results of this broad educational program.

A CHALLENGE—SEARCH THE PAGES

The editorial conferees are convinced from their preview of the contents of this issue of *The Pennsylvania Medical Journal* that its pages offer to the inquiring diagnostician and therapist stimulating case reports, authoritative clinical reviews, and sincere differences in professional opinion. Why not accept the challenge? Read the issue from cover to cover including our advertisers' pages and those of all contributors, reporters, and commentators, then forward to the *Journal* office your constructive criticisms and suggestions looking toward a *Journal* increasingly helpful to an increasing number of readers.

MEDICAL NEWS

Births

TO DR. AND MRS. WILLIAM A. WEISS, of Wilkes-Barre, a son, Dec. 16, 1940.

TO DR. AND MRS. F. CURTIS DOHAN, of Narberth, a son, Michael Repplier Dohan, Jan. 11.

Engagements

MISS GRACE MAE CLOUTING, of Richfield, and Lycurgus M. Gurley, Jr., M.D., of Johnstown.

MISS MARIAN VALETTA COOKERLY, of New Cumberland, and Kermit Landis Leitner, M.D., of Harrisburg.

MISS GRETCHEN T. CLAY, daughter of Dr. and Mrs. Joseph V. F. Clay, of Bryn Mawr, and Mr. William L. Rittenhouse, of Merion.

MISS HELEN ROBERTA HUGHES, daughter of Dr. and Mrs. Robert C. Hughes, of Paoli, and Mr. Warren Arthur Croll, Jr., of Devon.

MISS CATHARINE JEAN WETHERALD, of Overbrook, and Mr. Edward Augustus Parker, 3d, son of Dr. and Mrs. Edward A. Parker, of Philadelphia.

MISS ELIZABETH CHAPIN WHITE, of Rochester, N. Y., and Mr. Bobb Schaeffer, son of Dr. and Mrs. J. Parsons Schaeffer, of Philadelphia.

Marriages

MISS SHIRLEE E. SIMKINS, daughter of Dr. and Mrs. James J. Simkins, of Philadelphia, to Mr. Benjamin Jugber, Dec. 4, 1940.

MISS DOROTHY MERCER DUNKIN to Mr. Thomas Finley Godfrey, son of Dr. and Mrs. James M. Godfrey, all of Philadelphia, recently.

MISS AUGUSTA WILLIAMS HOWELL, of Haverford, to Mr. Edward Montgomery Bland, son of Mrs. Pascal Brooke Bland, of Bala, and the late Dr. Bland, Jan. 11.

Deaths

MRS. BAGLEY, wife of Clifford E. Bagley, M.D., of Tunkhannock, died Dec. 28, 1940.

CHARLES S. BARNES, Philadelphia; Jefferson Medical College, 1897; aged 78; died Dec. 29, 1940, in Temple University Hospital. Dr. Barnes was born in Newark, Ohio, Sept. 29, 1862. He was graduated from Ohio Wesleyan University in 1891. He was associate professor of obstetrics at Temple University School of Medicine and consulting gynecologist at the Philadelphia General Hospital. He was a member of his county and state medical societies and a Fellow of the A. M. A. He had been treasurer of the Medical Club of Philadelphia since 1935, and was past president of the Philadelphia Clinical Association, the Obstetrical Society of Philadelphia, and the Ohio Society of Philadelphia. He is survived by 2 daughters.

EDWARD W. BING, Chester; Jefferson Medical College, 1877; aged 84; died Dec. 10, 1940, following a brief illness. He was one of the oldest medical practitioners in Delaware County. Born in England, Dr. Bing came to Philadelphia in 1871. He received a degree in pharmacy from Jefferson Medical College in 1884 and conducted a pharmacy in addition to his practice. He was a member of his county and state medical societies and the A. M. A. His wife, Mary, having died a year ago, he leaves no other relatives in this country.

MRS. ANNA W. BORTZ, of Greenburg, aged 78, died Dec. 9, 1940. Surviving are a daughter and 3 sons, 2 of whom are Edward L. Bortz, M.D., of Philadelphia, president of the Philadelphia County Medical Society, and Walter M. Bortz, M.D., of Greenburg.

ETHAN A. CAMPBELL, Chester; University of Pennsylvania School of Medicine, 1905; aged 62; died Dec. 4, 1940. Dr. Campbell was a member of his county and state medical societies, the American College of Surgeons, and a Fellow of the A. M. A.

THOMAS B. CARROLL, Pittsburgh; Jefferson Medical College, 1903; aged 67; died Nov. 26, 1940. Dr. Carroll was a member of his county (former president) and state medical societies, the A. M. A., the American Gynecological Society, a Fellow of the American College of Surgeons, and certified by the American Board of Obstetrics and Gynecology.

SWITHIN CHANDLER, Philadelphia; University of Pennsylvania School of Medicine, 1892; aged 70; died at his home in Strafford, Dec. 10, 1940. Dr. Chandler was born in Centreville, Del., descendant of a family that settled near Wilmington 253 years ago. He was elected chief surgeon of the Delaware Hospital in Wilmington at age 21 and was also named chief surgeon on his graduation from medical school. Later, he served as chief surgeon of the Baltimore and Ohio Railroad and became president of the Association of Railway Surgeons. He studied abroad for 2 years. Dr. Chandler was associate professor of surgery at Temple University from 1918 to 1928 and also served on the staffs of Hahnemann, Jefferson, and Lankenau Hospitals. He was a member of his county (former chairman of the Board of Governors) and state medical societies and a Fellow of the A. M. A. He was the author of numerous articles in medical journals and the inventor of several brain surgery instruments. His first wife, Mrs. Elizabeth Sergeant Chandler, was an opera singer who appeared on the stage with Madame Schumann-Heink. They were divorced in 1909. He is survived by his second wife, Mrs. Reba McClintock Chandler, a son, and a daughter.

HENRY S. CROUSE, Littlestown; University of Pennsylvania School of Medicine, 1905; aged 63; died Dec. 17, 1940. He was a member of his county and state medical societies and the A. M. A.

RALPH E. CUMMINGS, Bentleyville; University of Pittsburgh School of Medicine, 1908; aged 55; died Dec. 28, 1940, from the effects of burns suffered while operating a roentgen-ray machine. He was struck in the head by approximately 60,000 volts while treating a patient. Dr. Cummings was a member of his county and state medical societies and a Fellow of the A. M. A.

HARRY B. CUNNINGHAM, Los Angeles, Calif.; Medico-Chirurgical College of Philadelphia, 1902; aged 69; died Oct. 19, 1940. Dr. Cunningham was a member of the Blair County Medical Society, The Medical Society of the State of Pennsylvania, and the A. M. A. He was not in practice.

THOMAS J. FLEMING, Philadelphia; University of Pennsylvania School of Medicine, 1894; aged 68; died Nov. 23, 1940. Dr. Fleming was a member of his county and state medical societies and a Fellow of the A. M. A.

HARRY E. GETTIER, Littlestown; Baltimore Medical College, 1897; aged 70; died Dec. 26, 1940, at the

Warner Hospital, Gettysburg, from a heart condition. Dr. Gettier was born in Littlestown, the son of the late Dr. C. P. and Elizabeth (Myers) Gettier. He was graduated from Gettysburg College in 1893. He served his internship at the Maryland General Hospital. From 1898 to 1902 he was a first lieutenant in the Medical Corps at Chattanooga, Tenn., and from 1902 to 1904 he served with the United States Quarantine Service, New York. He then took up his practice at Littlestown. Dr. Gettier was a member of his county (past president) and state medical societies and a Fellow of the A. M. A. He was a member of the medical staff of the Warner Hospital, and for many years he was a director of the Littlestown National Bank. Two sisters and one brother survive.

GEORGE W. HECK, Bethlehem; Hahnemann Medical College of Philadelphia, 1907; aged 59; died Dec. 9, 1940. He was a member of his county and state medical societies and the A. M. A.

GEORGE M. IRWIN, Lansdale; Jefferson Medical College, 1933; aged 33; died Oct. 9, 1940. Dr. Irwin was a member of his county and state medical societies and a Fellow of the A. M. A.

THEODORE MARVIN JOHNSON, West Pittston; Hahnemann Medical College and Hospital of Philadelphia, 1878; aged 86; died Aug. 21. Dr. Johnson was born at Carlisle, July 19, 1854, a son of Dr. Herman Merrill Johnson and Lucena E. (Clark) Johnson. He was educated at Clovrick Academy on the Hudson and Dickinson College. His preceptor was Dr. Hunt of Camden, N. J. In 1878 Dr. Johnson began the practice of medicine at West Pittston, and remained there during the 62 years of his medical career. He was guest of honor at a testimonial dinner given at the Fox Hill Country Club by the Luzerne and Lackawanna Homeopathic Medical Societies June 5, 1937, the date he started his sixtieth year as an active practitioner. Dr. Johnson was one of 7 physicians who organized the old North-eastern Pennsylvania Homeopathic Society in 1882, which was the first medical organization in that section of Pennsylvania. He was a member of his county, state, and national homeopathic medical societies. In 1882 Dr. Johnson was married to Lavina Elizabeth DeMott Matthews, who died in 1937. Surviving are a daughter and 4 sons, one of whom is M. Clark Johnson, M.D., of Kingston.

MRS. MARY IRWIN JUMP, wife of Henry D. Jump, M.D., of Philadelphia, former assistant director of the Department of Welfare, and first woman to attain a high position in Philadelphia's city government, died at her home after a long illness, Dec. 10.

HARRY E. KLINGAMAN, Emmaus; Medico-Chirurgical College of Philadelphia, 1911; aged 55; died Sept. 18, 1940. He was a member of his county and state medical societies and the A. M. A.

CHARLES W. LE FEVER, Philadelphia; Jefferson Medical College, 1897; aged 71; died Dec. 16, 1940. Dr. Le Fever was assistant professor of ophthalmology at Jefferson Medical College. He was a member of his county and state medical societies and a Fellow of the A. M. A. Dr. Le Fever was a widower. His wife died several years ago.

JAMES P. MANN, Philadelphia; Jefferson Medical College, 1887; aged 77; died suddenly Dec. 29, 1940, of a heart attack at Ann Arbor, Mich., where he was visiting his son, Arthur H. Mann, M.D., of Silver City, N. M., who underwent an operation in the University of Michigan Hospital. Dr. Mann, an orthopedic surgeon, was a member of his county and state medical societies and the A. M. A. He was a member of the board of the new Doctors Hospital at 17th and Summer Streets. Besides his son and wife, Dr. Mann is survived by a brother and sister.

VALENTINE R. MANNING, Philadelphia; Medico-Chirurgical College of Philadelphia, 1902; aged 59;

died Jan. 8. Dr. Manning specialized in proctology and was a member of the staffs of St. Mary's, St. Joseph's, and Nazareth Hospitals. He was a medical examiner for Draft Board No. 23. He was a member of his county and state medical societies, the National Gastroenterological Association, and a Fellow of the A. M. A. Dr. Manning is survived by his wife, Alice, 3 daughters, and a son, Valentine R. Manning, Jr., M.D.

MRS. McCULLOUGH, wife of Thomas L. McCullough, M.D., of Woodville, died Oct. 23, 1940.

JOSEPH S. MILLER, York; College of Physicians and Surgeons, Baltimore, Md., 1880; aged 84; died Dec. 8, 1940. Dr. Miller was a member of his county and state medical societies and the A. M. A. He was retired.

MRS. MARY R. MILLER, mother of Charles Scott Miller, M.D., of Philadelphia, died Jan. 1.

MRS. MORRIS, wife of Alanson F. B. Morris, M.D., of Philadelphia, died Oct. 18, 1940.

DE WAYNE D. RICHEY, Pittsburgh; University of Pittsburgh School of Medicine, 1915; aged 48; died Dec. 5, 1940. Dr. Richey was assistant professor of laryngology and rhinology at the University of Pittsburgh School of Medicine. He was a member of his county and state medical societies, the American College of Surgeons, the American Association of Pathologists and Bacteriologists, and a Fellow of the A. M. A.

JAMES E. ROBERTS, Lansdowne; University of Pennsylvania School of Medicine, 1899; aged 64; died Jan. 4. Dr. Roberts was a member of his county and state medical societies and the A. M. A. He is survived by his wife and a daughter.

JOHN J. ROBRECHT, Philadelphia; University of Pennsylvania School of Medicine, 1894; aged 73; died Dec. 21, 1940. He was a member of his county and state medical societies and the A. M. A.

EDWARD I. STEINBERG, Erie; Denver and Gross College of Medicine, Denver, Colo., 1907; aged 56; died Nov. 10, 1940. Dr. Steinberg was a member of his county and state medical societies and a Fellow of the A. M. A. He was a member of the American Academy of Dermatology and Syphilology.

ABRAHAM L. TRFASKIS, Turtle Creek; Starling Medical College, Columbus, Ohio, 1892; aged 80; died Oct. 28, 1940. He was a member of his county and state medical societies and the A. M. A.

MORRIS WINHELD, Philadelphia; Baltimore Medical College, 1904; aged 67; died Dec. 23, 1940. Dr. Winheld was a member of his county and state medical societies and a Fellow of the A. M. A.

Miscellaneous

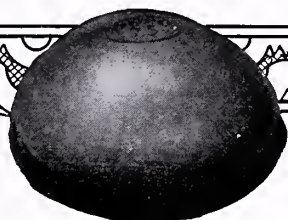
NORMAN E. FREEMAN, M.D., of Philadelphia, addressed the Indianapolis Medical Society, Nov. 26, 1940, on "Peripheral Circulatory Failure; Its Prevention and Treatment."

THE FIFTY-SEVENTH ANNUAL DINNER of the Luzerne County Medical Society was held Jan. 15, at 7 p. m., in the Westmoreland Club. William Baurys, M.D., retiring president, was toastmaster.

AT THE MEETING OF THE COLLEGE OF PHYSICIANS of Philadelphia held Jan. 8 at 8:30 p. m., the Sixteenth James M. Anders Lecture was delivered on "The Problem of Endemic Influenza" by Thomas Francis, Jr., M.D., New York University.

VIRGIL H. MOON, M.D., professor of pathology, Jefferson Medical College of Philadelphia, delivered the annual Gross Lecture of the Pathological Society of Philadelphia, Dec. 12, 1940, on "Pathology and Vascular Dynamics of Shock."

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THE WILLIAM POTTER MEMORIAL LECTURE of the Jefferson Medical College of Philadelphia was delivered by Henrik Dam, Ph.D., associate professor, Biochemical Institute, University of Copenhagen, Denmark, on Jan. 10. His subject was "A Survey of the Present State of Knowledge on Vitamin K."

THE EXECUTIVE BOARD of the American Public Health Association announces the dates of the Seventieth Annual Meeting as Oct. 14-17, 1941. The meeting place is Atlantic City, N. J. Headquarters for the meeting will be the Convention Hall. Residence headquarters will be the Hotel Traymore.

HERBERT T. KELLY, of Philadelphia, presented an exhibit on "Deficiency Diseases with Special Reference to Diagnosis and Treatment" at the Assembly of the Interstate Postgraduate Medical Association of North America held in Cleveland, Ohio, Oct. 14 to 18, 1940.

GEORGE B. MCCLELLAN WILSON, JR., M.D., has been approved as medical director for the new Pennsylvania Industrial School at White Hill, Cumberland County, at an annual salary of \$4500. He has been acting superintendent of the Pennhurst State School in Chester County since October, 1938.

THE JANUARY, 1941, ISSUE of *The Medical Bulletin*, the official publication of the Lycoming County Medical Society, appears in a new dress which is most attractive. The editor of this publication, Walter S. Brenholtz, M.D., and his publication staff are to be congratulated on their fine magazine.

AT A MEETING OF THE PATHOLOGICAL SOCIETY of Philadelphia, held Jan. 9 at 8:15 p.m., a paper on "Causative Mechanism of Arteriosclerosis and Atherosclerosis: An Experimental Study With Applications to Man" was presented by Wilhelm C. Hueper, M.D., pathologist, Warner Institute for Therapeutic Research, New York.

AT THE MEETING OF THE PHILADELPHIA ACADEMY OF SURGERY held Jan. 13 at 8:15 p.m., at the College of Physicians, the guest speaker was Henrik Dam, M.D., associate professor, Biochemical Institute, University of Copenhagen, who gave an address on "Vitamin K, Its Role in Human Pathology and Its Application to Therapeutics."

A MEDICAL HISTORY STUDY GROUP has been organized at the Michael Reese Hospital, Chicago, and named in honor of the late Robert Sonnenschein, M.D. The first meeting of the new group, held Dec. 11, 1940, was addressed by Reuben Friedman, M.D., assistant professor of dermatology and syphilology, Temple University School of Medicine, Philadelphia, whose subject was "Acarus Scabiei—The Story of a 1200 Years' Search for the Obvious."

AT THE REGULAR NOVEMBER MEETING of the Pittsburgh Surgical Society held in the Mellon Institute, Pittsburgh, Henry T. Price, M.D., presented a paper entitled "The Acute Abdomen in Children." The discussion was opened by William W. Bryant, Jr., M.D. "The Diagnosis of Acute Surgical Lesions of the Abdomen in Childhood" was read by Holland H. Donaldson, M.D., and discussed by George V. Foster, M.D. Herbert Frankenstein, M.D., delivered a talk on "Fat

Embolism Following Trauma." This paper was discussed by John H. Alexander, M.D.

PHILADELPHIA'S DIPHTHERIA RATE.—There was only one death in Philadelphia from diphtheria in 1940. According to the records, 10 years ago there were 48 deaths. There were 3 deaths out of 108 cases in 1939. Harriet L. Hartley, M.D., chief of the child hygiene division of the City Department of Health, is very much elated over the 1940 showing and hopes that it portends the complete elimination of diphtheria in Philadelphia in 1941. Dr. Hartley attributes the results that have been obtained not only to the large number of children that have been immunized against the disease but to the free municipal service rendered.

JEFFERSON HOSPITAL, Philadelphia, has been awarded \$330,522.76 from the estate of the late Mrs. Emily Barton Pendleton for the treatment of cancer and tuberculosis and for research into their causes. The bequest carries on the medical tradition in the Barton family, which has given Philadelphia 2 eminent surgeons, John and William Barton, several medical scholarships, and medical research funds. John Barton was Mrs. Pendleton's grandfather and William Barton was her great-uncle. Another large gift from the estate was to the University of Pennsylvania, which received \$120,000 to maintain the Edward Gray Pendleton scholarships in memory of her husband.

THOMAS F. MCNAIR SCOTT, M.D., research professor of pediatrics at the University of Pennsylvania Medical School, and Alexander J. Steigman, M.D., house officer of the Children's Hospital, Philadelphia, are two of the 75 American physicians who, with Red Cross nurses and technicians, have volunteered to staff a prefabricated hospital for communicable diseases in the south of England. The hospital, built of reinforced plywood, and designed to escape detection by hostile aircraft, is being built by the Red Cross and Harvard University. John E. Gordon, M.D., of Harvard Medical School, who will be director general of the hospital, has already sailed for England to supervise construction of the hospital.

THE BOARD OF DIRECTORS of the Metropolitan Life Insurance Company have appointed George M. Wheatley, M.D., an assistant medical director.

Dr. Wheatley, a graduate of Harvard Medical School, supplemented his training with hospital and clinical service and experience. He has been principal pediatrician in charge of the School Health Service of the New York City Department of Health. He was in active charge of the medical and pediatric phases of the School Health Study Program carried out by the Metropolitan and other agencies in conjunction with the New York City Departments of Health and Education.

Dr. Wheatley's services with the insurance company primarily will deal with the relationships between the Metropolitan's Welfare Division and medical societies, preventive medical movements and health services, both official and voluntary.

FOLLOWING THE POSTGRADUATE ASSEMBLY MEETING at the Harrisburg Academy of Medicine, held Nov. 14, 1940, in Harrisburg, 21 physicians specializing in eye, ear, nose, and throat diseases from the counties sur-

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rounding Harrisburg met and formed the Central Pennsylvania Eye, Ear, Nose, and Throat Society. George F. Gracey, M.D., was elected president and Forney P. George, M.D., secretary-treasurer.

This organization which is separate from any existing medical group will meet the second Thursday of February, April, June, October, and December.

At the December meeting, Alfred W. Cowan, M.D., supervising ophthalmologist of the Department of Public Assistance, gave a talk on "The Diagnosis of Blindness." Dr. Cowan's paper related particularly to the examination of candidates for blind pension in Pennsylvania. Physicians of Pennsylvania are invited to attend the next meeting to be held Feb. 13 at the Harrisburg Academy of Medicine.

DOCTORS HOSPITAL OFFICIALLY OPENED.—Doctors Hospital, 17th and Summer Streets, organized by Philadelphia physicians as a nonprofit institution, officially opened its doors on Jan. 11.

Many city officials and civic leaders visited the institution and were greeted by Arthur P. Keegan, M.D., chief of the city's medical division and chairman of the new hospital's board of directors. Even as Dr. Keegan greeted the guests, 2 patients, one a woman and the other a child, arrived at the hospital. The institution has 200 beds, 3 operating rooms, and 3 delivery rooms.

The hospital building formerly was owned by the University of Pennsylvania, and once was known as the Orthopedic Hospital. The new hospital will be unique in that it will have no interns and no student nurses. All doctors on duty will be practicing physicians or surgeons, and all nurses are graduates.

Other members of the board besides Dr. Keegan are Drs. George M. Dorrance, John M. Cruice, John G. Manley, Eugene C. Murphy, John W. Bransfield, David N. Kremer, Daniel C. McCarthy, William H. Spencer, and Y. Frank Yoshida.

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA.—On Nov. 13 Catharine Macfarlane, M.D., presented a report on "An Experiment in the Control of Cancer of the Uterus" before the Woman's Hospital Society of Detroit, Mich.

On Nov. 15 Emily Dunning Barringer, M.D., president-elect of the American Medical Women's Association and only woman member of the House of Delegates of the American Medical Association, lectured to the third-year students on "The Modern Treatment of Gonorrhea."

Alma D. Morani, M.D., has been elected to membership in the Society of Plastic and Reconstructive Surgery. She is the only woman member.

At the request of Hugh S. Cumming, M.D., director of the Pan American Sanitary Bureau, Pan American Health Day was observed on Dec. 2. The principal speaker was Damaso de Rivas, M.D., assistant professor of parasitology at the University of Pennsylvania, who spoke on "The Problem of Malaria Control." Five students from Puerto Rico and the Canal Zone gave short talks on local health problems in their own countries.

On Dec. 13 Dr. Rufus M. Jones, emeritus professor of philosophy at Haverford College and chairman of the Friends' Service Commission for European Relief, gave a stimulating talk to the students and invited guests on "What Life Means." This was sponsored by the Young Women's Christian Association of the College.

THE FIFTY-FOURTH ANNUAL DINNER of the Association of Ex-Resident and Resident Physicians of the Philadelphia General Hospital was held on Dec. 3, 1940, at 7 p. m., at the Mid-day Club, 123 South Broad Street, Philadelphia. One hundred ninety-six members were present. The president, Ruth Hartley Weaver, M.D., was toastmistress, and the speakers were Hubley R. Owen, M.D., Director of Public Health of the City of Philadelphia; William G. Turnbull, M.D., superintendent of the Philadelphia General Hospital; and

John J. Shaw, M.D., Secretary of Health of the Commonwealth of Pennsylvania. Dr. Shaw introduced the guest of honor, Major General Charles R. Reynolds, retired. General Reynolds has had a long and distinguished career since his graduation from the Medical School of the University of Pennsylvania in 1899 and his internship at Blockley in 1900. Among the positions he has held was that of Surgeon General of the United States Army from 1935 to 1939. His present position is director of the Tuberculosis Division of the State Department of Health.

In addition to the guest of honor, two of General Reynolds' brothers were also present. They are Colonel Frederick P. Reynolds, 1890, and Colonel Royal Reynolds, 1907. These three brothers were all graduates of the University of Pennsylvania and also served as Blockley interns.

Other distinguished guests were Brigadier General Frank R. Keefer, 1889, B. Franklin Stahl, M.D., 1887, Theodore Diller, M.D., 1886, John L. Bower, M.D., 1888, Augustus A. Eshner, 1889, and Lieutenant Commander Thomas F. Duhigg, 1904.

David M. McKell, Jr., M.D., president of the Blockley Medical Society, gave a few words of greeting from the present interns.

Newly elected officers for the coming year are as follows: Sherman F. Gilpin, Sr., M.D., president; Russell S. Boles, M.D., vice-president; George Wilson, M.D., secretary-treasurer; and the Executive Committee, Drs. Marion H. Rea, Joseph V. Missett, DeLorme T. Fordyce, Basil R. Beltran, Emily P. Bacon, and John D. Corbit, Jr.

During the afternoon the Osler Memorial was opened and 31 visitors signed the book. An original painting of Osler at Old Blockley by Dean Cornwell was on exhibition.

Ex-residents are requested to send their correct addresses to the secretary, George Wilson, M.D., 133 South 36th Street, Philadelphia.

CLASSIFIED ADVERTISEMENTS

Classified advertisements are payable in advance. To avoid delay in publishing, remit with order.

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For Sale.—Kelley-Koett X-ray, 1926, 5" 30 ma., electrically driven table. Also stereoscope and Bucky diaphragm. Reasonable. Address: W. W. Wasson, 600 Grant St., Pittsburgh, Pa.

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BOOK REVIEWS

CLINICAL HEART DISEASE. By SAMUEL A. LEVIN, M.D., F.A.C.P., assistant professor of medicine, Harvard Medical School; senior associate in medicine, Peter Bent Brigham Hospital, Boston; consultant cardiologist, Newton Hospital; physician, New England Baptist Hospital, Boston. Second edition, revised and reset. Philadelphia and London: W. B. Saunders Company, 1940. Cloth, \$6.00.

The general plan and style of the second edition follows closely that of the first, which met a hearty welcome from both students and general practitioners. The work represents the personal experience of practice and teaching, consequently one is spared the bore of uninteresting historical reviews and a rehash of all the various opinions of other authors on a given subject. Each chapter deals adequately with its particular subject matter, and any repetition that is necessitated by this plan is welcome.

Some new material and electrocardiograms have been added. The nomenclature of the chest leads has been changed to conform with that recently recommended by the American Heart Association and the Cardiac Society of Great Britain and Ireland. A new chapter is devoted to the medicolegal aspects of heart disease—a subject of growing importance. In this discussion the author takes a rather liberal view toward the part often played by trauma—perhaps more liberal than is justified by clinical and experimental evidence.

The book is highly recommended to a place in the library of every busy physician, for by its help the physician alone, at the bedside, unaided by special apparatus, may correctly diagnose and treat the majority of cardiac ills.

NEOPLASTIC DISEASES. A Treatise on Tumors. By JAMES EWING, A.M., M.D., Sc.D., LL.D., professor of oncology at Cornell University Medical College, New York City; consulting pathologist, Memorial Hospital. Fourth edition, revised and enlarged, with 581 illustrations. Philadelphia and London: W. B. Saunders Company, 1940. Price, \$14.00.

This book is the standard and recognized authoritative American writing on tumors. It is to be found in the libraries of all pathologists, and upon the shelves of all well-equipped hospital laboratories. There is no book that compares with it in the extent and thoroughness with which it treats the subject, and it is so well established in its field that it brooks no competition. Thousands have it and refer to it frequently.

With such an introduction, it might be supposed that there could be no such thing as adverse criticism, but with all due respect to the author, the book has, what seem to us, some serious defects.

When one consults an encyclopedic work of this kind, it is usually because he desires to learn what has been found out about some particular subject, and what the author thinks about it. The first requirement is pretty well met, for the work is essentially a compilation, but the second is extremely disappointing, for in many cases the author either expresses no opinion or is so vague about it that the reader is not sure of his position.

For assisting the practical histopathologist to interpret his microscopic slides in the laboratory, the book is of very little use. But the author may not have intended it to be a laboratory guide, and in his preface he says: "The significant facts about tumors are not of general application, but are revealed in the study of special tumor groups or even of special cases."

We particularly dislike his method of handling the bibliography, which is so voluminous as to cover 50 closely printed pages, but which is so arranged as to make the finding of any particular reference almost impossible, or at least very difficult, and provides no means of finding the citations from any particular author.

But whatever we may say about its merits and demerits, the book remains the great work of a great scholar for whom we have nothing but praise for the years of industry and effort spent, in spite of a great physical handicap, upon its continuous improvement and expansion, and the best evidence of its excellence and usefulness is that no one interested in oncology can possibly get along without it.

CLINICAL DIABETES MELLITUS AND HYPERINSULINISM. By RUSSELL M. WILDER, M.D., Ph.D., F.A.C.P., professor and chief of the Department of Medicine, The Mayo Foundation for Medical Education and Research, University of Minnesota; head of the Section on Metabolism Therapy, Division of Medicine, The Mayo Clinic, Rochester, Minn. 459 pages with 19 illustrations. Philadelphia and London: W. B. Saunders Company, 1940. Price, cloth, \$6.00.

This volume is produced by one of the most experienced and successful clinicians in the management of diabetes in America. It is well written, accurate, up-to-date, and comprehensive.

Dr. Wilder's text successfully compresses into a relatively small volume a clear and critical résumé of all that is known clinically about diabetes—symptoms, chemistry, diagnosis, and treatment. In treatment he stresses the maintenance of normal nutrition and outlines how this may be maintained. The complications, the recognition and proper treatment of which are as important as the diabetes itself, are carefully discussed. In this connection he takes issue with Joslin as to the disadvantages of alkali in treating coma. Dr. Wilder recommends its use.

The last two of the 26 chapters are devoted to a discussion of hyperinsulinism and its treatment. The appendix contains the usual tables of food values and standard diets as well as a food nomogram.

The liberal use of footnotes adds to the value and completeness of the work. The indices are excellent. Written in a slightly terse but entertaining style, this book is one which every clinician who treats diabetes will want to have immediately available.

A TEXTBOOK OF PHYSIOLOGY. By WILLIAM H. HOWELL, Ph.D., M.D., Sc.D., LL.D., emeritus professor of physiology in the Johns Hopkins University, Baltimore. Fourteenth edition, thoroughly revised. 1117 pages and 330 illustrations. Philadelphia and London: W. B. Saunders Company, 1940. Price, \$7.50.

The fourteenth edition of this text serves, as have the other editions, to bring the work up to date by including the essence of the physiologic literature. Frequent editions of such a text are required on account of the vast amount of research work which is being constantly carried on, but the reviewer recognizes the text as the one he used a quarter of a century ago. This edition has suffered nothing by the many years of active teaching of the author. The book remains a

standard physiology, and there are doubtless hordes of second-generation Howell students who may profit by it as did their fathers.

SIMPLIFIED DIABETIC MANUAL. With 163 international recipes. Second edition. By ABRAHAM RUDY, M.D., associate physician and chief of the Diabetic Clinic, Beth Israel Hospital, Boston; instructor in medicine, Tufts College Medical School; consultant in diabetes, Jewish Memorial Hospital, Roxbury, Mass., and Jewish Tuberculosis Sanatorium, Rutland, Mass. Introduction by DR. FREDERICK M. ALLEN. New York: M. Barrows & Company, Inc., 1940. Price, \$2.00.

This new edition includes all the latest developments in the treatment of diabetes. There are 163 recipes listed for American, Jewish, French, German, Italian, and Armenian dishes, for it is Dr. Rudy's belief that diet is still the backbone in the treatment of diabetes while insulin is used as an adjunct in a large percentage of the patients.

Included in this volume are Dr. Allen's principles in the treatment of diabetes, as outlined in his historical work before the discovery of insulin, which principles still hold good. The rôle that heredity and other factors play in the development of diabetes is discussed in detail.

This book is an excellent guide for the diabetic patient, the busy general practitioner, the dietitian, and the nurse, for, although everything is presented in a simple and practical manner, it is in keeping with scientific knowledge.

DERMATOLOGIC THERAPY IN GENERAL PRACTICE. By MARION B. SULZBERGER, M.D., assistant clinical professor of dermatology and syphilology, Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital of Columbia

HAVE you received your copy of the 75 page brochure "**Citrus Fruits and Health**"? You'll find a wealth of informative, authoritative material, carefully compiled and exhaustively treated. Free on request to members of the medical profession.

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University; associate attending dermatologist, Montefiore Hospital, New York City; and JACK WOLF, M.D., attending dermatologist and syphilologist, Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital of Columbia University; director of dermatology, New York City Cancer Institute. Chicago: The Year Book Publishers, Inc., 1940.

This book, as the title portrays, was written chiefly for the aid and guidance of the general practitioner in the diagnosis and treatment of the common skin diseases and syphilis.

The publishers have succeeded most admirably in the reproduction of many excellent illustrations; the text is printed on very good paper with clear, legible type.

The language used by the authors is not too technical, but is easily understood, so that the general practitioner can apply the procedures and medicaments in his office.

The volume is replete with numerous practical techniques which can easily be used in the home or at the physician's office. Tables and summaries giving all facts pertaining to a given condition are numerous and save much time for the busy practitioner.

The authors are to be congratulated in presenting this volume for both student and general practitioner, and your reviewer most heartily recommends it as a valuable addition to any medical library.

A MANUAL OF OTOTOLOGY, RHINOLOGY, AND LARYNGOLOGY. By HOWARD CHARLES BALLENGER, M.D., F.A.C.S., assistant professor of otolaryngology, Northwestern University School of Medicine, Chicago, Ill. Octavo, 302 pages with 90 engravings and 4 color plates. Philadelphia: Lea and Febiger, 1940. Cloth, \$3.75 net.

This work, as the author states, has been written to fill the increasing need for a concise textbook on the diseases of the nose, throat, and ear. He has divided the text into 4 parts.

Part I, "The Nose and Accessory Sinuses," includes the clinical anatomy and physiology of these parts, acute inflammatory diseases and infections, the treatment and complications of disease of the sinuses, hyperplastic and atrophic rhinitis, allergy, furunculosis, foreign bodies, fractures of the facial bones, and physical therapy.

Part II considers "The Pharynx, Fauces, and Tonsils"—deep cervical infections as well as the lingual tonsil and the pharyngeal adenoids.

Part III is devoted entirely to "The Larynx" and has many points to recommend it. Many of the illustrations, although not new, are typical of the condition illustrated.

Part IV, "The Ear," contains the clinical anatomy and physiology of this member. Functional hearing

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tests are considered in a fair manner. Diseases of the auricle and external auditory canal are considered as well as the tympanic membrane and the eustachian tube. Acute suppurative otitis media, acute mastoid infection, petrositis, facial paralysis, and tests for diagnosing labyrinthian infections all have their sub-chapters and headings.

While the text is clear and the author distinctly states that it was compiled for the medical student, your reviewer feels that too many of the newer concepts in the specialty have been sacrificed. It is an impossibility, with our present methods of arriving at a diagnosis, to condense the technic into a few lines. This is true also of the various forms of treatment now used. We feel that too much valuable present-day knowledge has been sacrificed.

AMERICAN COLLEGE OF SURGEONS' MEETING IN PITTSBURGH

The American College of Surgeons will hold a sectional meeting, comprising the states of Pennsylvania, Ohio, West Virginia, Virginia, Maryland, New Jersey, New York, and the District of Columbia, at the Hotel William Penn, Pittsburgh, Mar. 17 to 19, 1941.

Hospital conferences will be held in connection with this meeting. Fellows of the college, members of the medical profession at large, and persons interested in the institutional care of the sick and injured are invited to this meeting. The final evening meeting will be devoted to health conservation, to which the public has been invited.

UNIVERSITY OF PITTSBURGH RECEIVES CYCLOTRON

Through a gift of \$50,000 by Mrs. Alan M. Scaife to the University of Pittsburgh School of Medicine, a cyclotron will be erected on the university campus, officials announce.

The cyclotron will be housed in a special building, 40 by 70 feet, located near the Medical Center, on O'Hara street, convenient for the treatment of patients. In its construction 70 tons of iron and 30,000 pounds of copper will be used to construct a huge electromagnet. Between the poles of this electromagnet a vacuum chamber is placed. The output of a large short-wave radio transmitter is applied to this vacuum chamber in such a way as to speed up the ions in it as if they had been acted on by millions of volts.

The cyclotron was first developed at the University of California by Professor E. O. Lawrence, who was awarded the 1939 Nobel Prize in Physics for its development and for the many researches in physics and medicine which it has made possible.

Although some of the most spectacular applications of the cyclotron, officials point out, apply to the field of medical research by affording an entirely new method of approach to the solution of medical problems, the cyclotron has equal application in practically all other fields of pure and applied science, including biology, chemistry, physics, and metallurgy. This wider scope of application was the wish of Mrs. Scaife in providing this new instrument of research for medicine as well as that in pure science and industry.

Dr. Alexander J. Allen, associate professor of physics, who constructed the cyclotron for the Biochemical Foundation of the Franklin Institute, will be in charge of the construction of the Pitt instrument. Construction of building and instrument is expected to take about one year.

LEGISLATIVE DO'S AND DON'TS

The Chamber of Commerce of the United States has issued a communication offering advice to people concerning their relations with the members of Congress under the title, "In Writing to Your Congressman," with the caption "Do's and Don'ts." We are taking the liberty of adapting this communication for the benefit of the readers of our bulletin. To our personal knowledge, violation of some of these Do's and Don'ts has been the cause of friction between physicians and their legislators, with unfortunate results:

When the legislature passes a law relating to the practice of medicine, you as a physician know pretty well what the effect of that law will be.

But experience has shown that members of the legislature do not always know how and why their legislative acts will affect the practice of medicine unless physicians write and tell them.

Your views are always welcome, for the men who stay in the legislature the longest are those who read and heed their constituents' letters. But there's a right way to write effectively to your legislators. May we offer these suggestions:

DO—

- Spell your legislator's name correctly.
- Make sure whether he is a Senator or an Assemblyman.
- State concisely what you think and why—the briefer the better.
- Cite specific illustrations, whenever possible, as to effects proposed legislation would have on the practice of medicine and people in your community.
- Write on your office stationery.
- Sign your name plainly. Type it under the signature.
- Send a letter rather than a telegram when time permits.
- Seize every opportunity to become personally acquainted with your legislators.

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Every precaution has been taken to insure accuracy in these advertisements and in this index, but there is no guarantee against errors or omissions.

DON'T—

Threaten political reprisals.
Write in a captious or belligerent mood.
Remind your legislators of broken promises.
Attempt to speak for anybody but yourself.
Insert newspaper clippings or mimeograph material.
Send a chain letter or post card.
Quote from form letters.
Write only when you want a favor. Letters of commendation are always welcome.
Try to make an errand boy out of your legislator.
Become a chronic letter writer.

Mr. White, of Idaho, had the original communication read into the Congressional Record and suggested at the time that "the average business man make it his business to know the man that represents him in the national capital and casts his vote in the House of Representatives and familiarize himself with his Congressman's record in voting on legislation." And that suggestion to business men is equally applicable to us as physicians.—JOSEPH S. LAWRENCE, M.D., Executive Officer, Medical Society of the State of New York.

NEW YEAR'S RESOLUTION

With the advent of 1941 your Medical Advisory Committee is impelled again to put before you clearly the importance of keeping accurate records. There is no single item more important in defense of an unjust malpractice suit than a well-kept clinical record. Whether treatment is carried on in the office, or in the hospital, it is your important duty to put in writing the treatment administered and the advice given to the patient. Particularly important is a notation, in your own handwriting, of the directions you give a fracture case, or a postoperative case, when it leaves your immediate care.

A careful notation as to the condition of the specific ailment when the patient leaves your care may save embarrassment and trouble later. You are busy. You cannot be expected to remember the details of any individual case, and if you are called upon suddenly to defend yourself in a malpractice suit, a well-kept clinical record, including dates, will prove a great help.

In hospital cases be sure to have a notation on the chart, in your own handwriting, if there is any unusual occurrence. If a patient falls out of bed, if there is a complaint about a hot water bottle, if there is a minor infection of some kind, and if there is any evidence at any time of anything other than the expected course of events, make a note of it, with the date, on the progress record of the hospital chart.

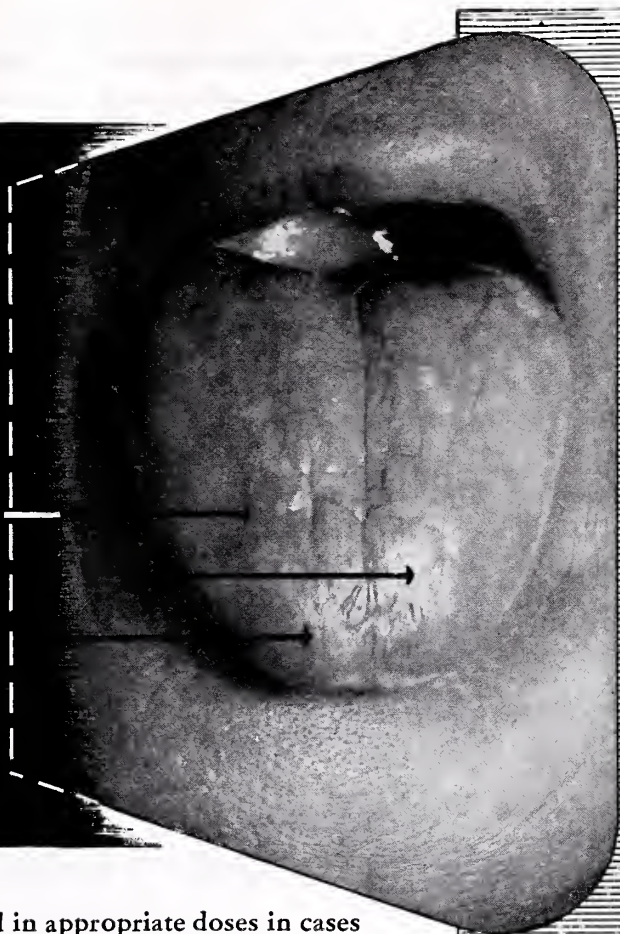
When the patient leaves the hospital make a notation, in your own handwriting, of the condition on discharge and the instructions given. Do this yourself; do not rely upon the intern or the house physician to do it for you. This will save time and trouble as to identification of the record if it ever has to be taken into court.

Your Advisory Committee is not pessimistic. It believes that medicine and surgery, as practiced in Minnesota today, are of the highest type. Unfortunately, however, no one of us is immune to unjust malpractice suits, and, therefore, it behooves all of us to keep accurate and complete records, which may be of inestimable help in time of trouble.

Let this be an important New Year's resolution for 1941!—*Minnesota Medicine*.

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The glossitis of pellagra is only one of the evidences of nicotinic acid deficiency, but is one which is quite commonly present; characteristically, the tongue is beefy red, the mucous membrane smooth and usually dry.



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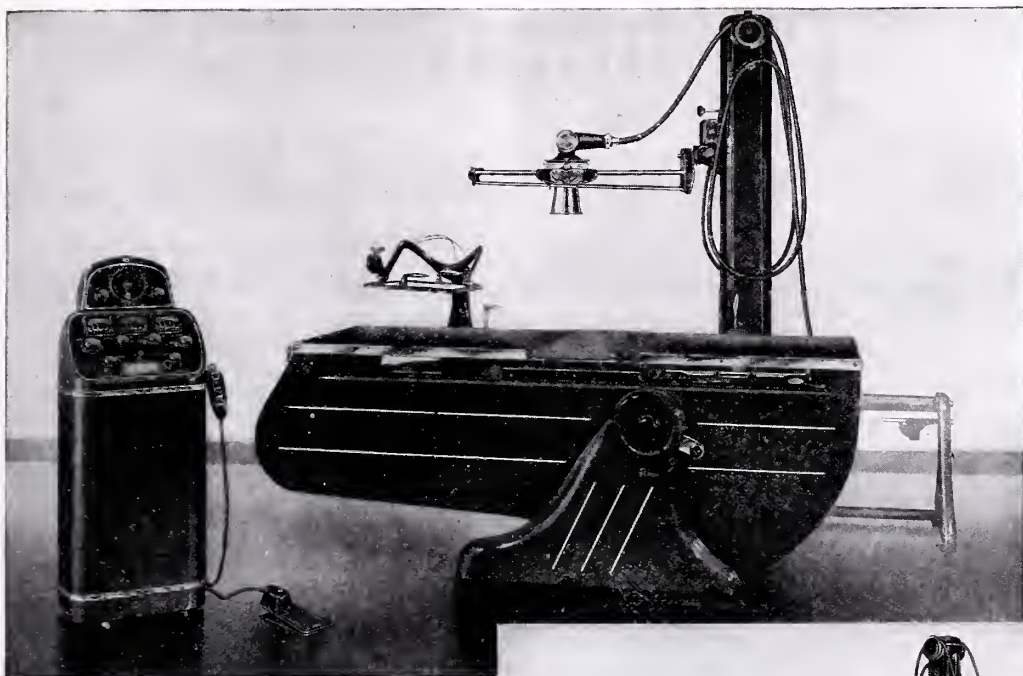
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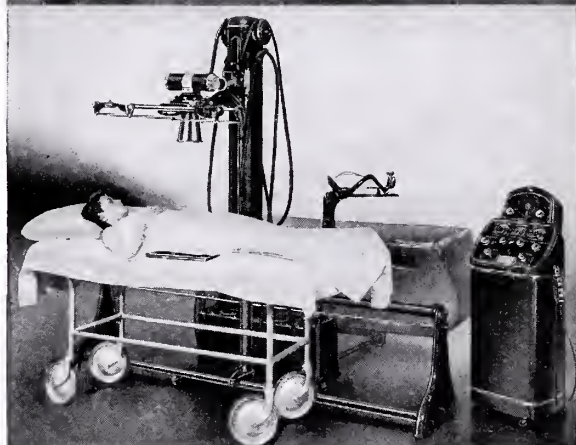
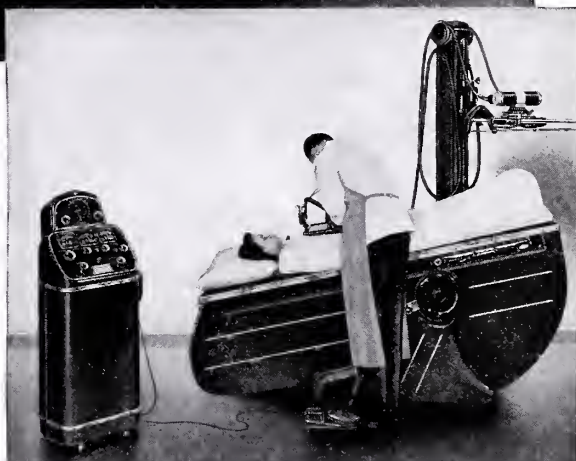
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LETTERS

Masterful Editorial

GENTLEMEN :

Congratulations to the writer of the masterful editorial on "No Retreat for Medicine," which appeared in the January issue of the JOURNAL.

CHEVALIER JACKSON, M.D.,
Philadelphia, Pa.

Progress

GENTLEMEN :

The Doctors' Symphony Orchestra of Pittsburgh had an excellent start. More than two score physicians and dentists turned out for the first rehearsal held Feb. 6, 1941, at the H. C. Frick School.

Rehearsals will be held every Thursday night at 9:30, at the H. C. Frick School, Fifth Avenue between Bouquet and Thackeray Streets. If you have ever played an instrument, please get in touch with Dr. Myer W. Rubenstein, 3401 Fifth Avenue, telephone Mayflower 3113, or Dr. Joseph H. Judd, Medical Arts Building, telephone Schenley 3171.

MYER W. RUBENSTEIN, M.D.,
Pittsburgh, Pa.

New Address

GENTLEMEN :

The Registry of Medical Technologists of the American Society of Clinical Pathologists has been moved from Denver, Colorado, to Muncie, Indiana. Since its organization in 1928 the Registry has been located in Denver, where its work has been carried on under the administration of its distinguished chairman, Dr. Philip Hillkowitz, and Mrs. Anna R. Scott, the registrar. The increasing burden of the office, together with a recent serious illness, prompted the resignation of Dr. Hillkowitz as chairman of the Board of Registry. His successor, who was chosen by the members of the board to fill the vacancy, is Dr. Lall G. Montgomery, the pathologist of the Ball Memorial Hospital, of Muncie, Indiana. The Registry is now situated at this hospital.

Following the resignation of Dr. Hillkowitz, Mrs. Scott, the registrar of the board, retired. The newly appointed registrar is Miss Carlita R. Swenson, who comes from Philadelphia, where she has been associated with the United States Pharmacopoeia.

As you know, there are unauthorized organizations which are attempting to confuse the general public as to the validity of registration in our Registry, and it is our earnest hope that the transfer of the Registry from Denver to Muncie will not contribute to this confusion. For this reason, we have carefully notified all approved hospitals and training schools for medical technologists that the move was taking place, and have pointed out the changes in personnel which were necessitated by the change in location. However, it is quite possible that many interested persons may not hear of this through these channels, and we are hopeful that the publication of this letter in your JOURNAL may be helpful in re-

mind your readers of the change in the Registry address.

This event in the history of the Registry is a reminder that over 12 years have passed since the first handful of registrants received their certificates from the Denver office. Since then, under the skillful and friendly guidance of Dr. Hillkowitz and Mrs. Scott and their associates on the Board of Registry, the number of registered medical technologists has increased to the present impressive figure of 6856. Twice a year this total is further increased by the addition of several hundred successful candidates from the spring and fall examinations held by the board.

A further rapidly increasing responsibility of the Board of Registry is the investigation and approval of schools for the training of medical technologists. The standards adopted for the approval of these schools have been raised gradually during the past 12 years and yet at the present time there are more than 150 schools which have met all the requirements and therefore are approved for the training of student technologists. In this important work the Board of Registry has received the invaluable assistance of the Council on Medical Education and Hospitals of the American Medical Association, who have very kindly assumed the expense and responsibility of making the surveys of the various schools which make application for approval.

The great success of the work of the Registry has been due in large part to the enthusiastic support which has been given the work by pathologists, hospitals, and educational institutions throughout the country. It is the hope of the Board of Registry and the Registry staff that the change in location will in no way interrupt the success of the work.

LALL G. MONTGOMERY, M.D.,
Chairman of Board of Registry
of Medical Technologists,
Ball Memorial Hospital,
Muncie, Indiana.

Harofe Haivri

GENTLEMEN :

We wish to direct the attention of the medical profession to the appearance of a special issue of *Harofe Haivri* (the Hebrew Medical Journal), a semi-annual publication, edited by Dr. Moses Einhorn. This volume commemorates the thirteenth anniversary of this journal and is dedicated to Prof. Sigmund Freud.

The founders had faith in the vitality and growth of modern Hebrew and foresaw that a Hebrew medical publication would be of inestimable value in the development and advancement of Hebrew medical literature; also, it has proved to be of particular service to the medical department of the Hebrew University in Jerusalem.

The contents of this journal are not confined to technical medical topics, but are divided into several sections covering a variety of related subjects, such as Medicine in the Bible and Talmud, Old Hebrew Medical Manuscripts, Palestine and Health, etc. Among the con-

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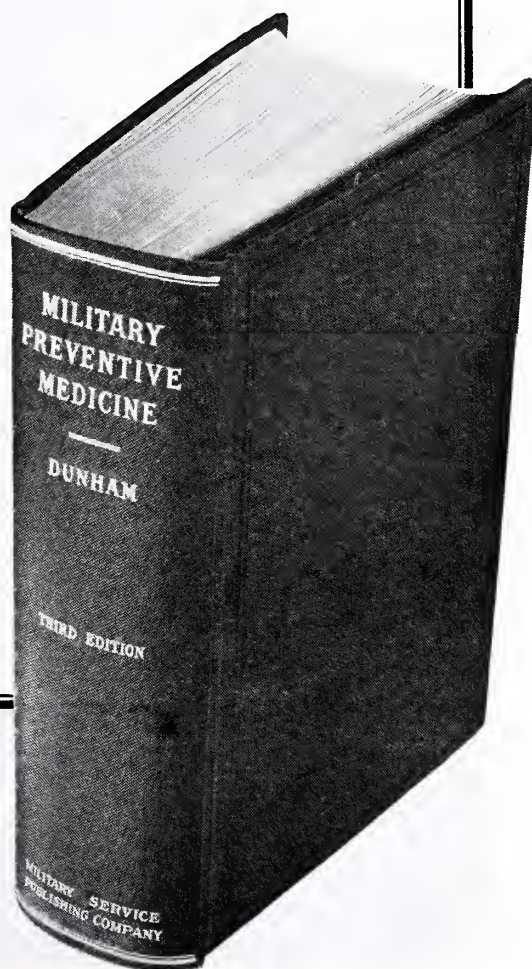


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tributors to the medical and editorial sections have been such prominent physicians as I. S. Wechsler, A. Rongy, S. Solis-Cohen, B. Crohn, R. L. Kahn, J. Bullova, D. Macht, etc.

In the section on Sigmund Freud, Dr. A. A. Brill presents a masterful exposition of "Freud's Metapsychology," and Dr. Philip Lehrman recounts much biographic detail and the story of Freud's earliest researches.

Another section of *Harofe Haivri* presents from time to time medieval medical treatises, heretofore unpublished and interesting both from a historic and scientific viewpoint. In this volume a manuscript entitled "Hygiene of the Body" is included; it is written in verse by the famous Yehuda al-Charisi, who lived in Spain during the Twelfth Century.

Under the heading of "Personalia" biographical sketches of the foremost late physicians have been presented and their contributions to medicine reviewed, such as Koplik, Frauenthal, Maurice Fishberg, Beer, Paul Ehrlich, Teschner, Joseph Goldberger, A. Jacobi, S. J. Meltzer, J. Solis-Cohen, Marcus Rothschild, Mendel, and others. In this issue a sketch of the life and work of the great medical figure, August Wassermann, is given.

In addition to an English-Hebrew medical dictionary, the original articles are summarized in English to make them available to those who are unable to read Hebrew.

The readers of THE PENNSYLVANIA MEDICAL JOURNAL may secure further information by writing to *Harofe Haivri*, 983 Park Ave., New York City.

LEO B. SCHWARTZ, M.D.,
New York, N. Y.

Still in Demand

GENTLEMEN:

We have been very much interested in your recent publication "Are the Citizens of Pennsylvania Neglected When Ill or Injured?" and are grateful to you for forwarding to us the extra copies which we requested.

I am sure that this publication will be of great value to the staff of the Pennsylvania Economy League located in the various counties throughout the state. This publication presents a clear, concise, and invaluable statement of the present situation relative to medical attention and hospitalization facilities throughout the state. It will be helpful to all of us who are interested in this problem.

R. H. LANSBURGH, *Director*,
Eastern Division,
Pennsylvania Economy League, Inc.,
Philadelphia, Pa.

Copies of "Are the Citizens of Pennsylvania Neglected When Ill or Injured?" are still available. Address your request to the Librarian, 230 State St., Harrisburg, Pa.—THE EDITORS.

CORRECTION

The formula appearing on page 585 of the February issue of the *Journal* should have read: Sulfanilamide powd. 3ii-3iv, powd. tragacanth gr. xx, glycerine ℥lxxv, alcohol ℥lxxxv, syr. raspberry fl. 3iv, aq. dest. q.s. ad. fl. 3vi. Each fl. 3ii represents 5 to 10 grains of the remedy as the case may be.



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The Management of Hyperthyroidism Complicated by Other Conditions

RICHARD B. CATTELL, M.D.
Boston, Mass.



THE diagnosis of hyperthyroidism in patients with typical signs and symptoms is not difficult and the treatment of this condition is well understood. No group of surgical cases offers any greater opportunity for satisfactory and gratifying results both to the patients and their surgeons. The management of these typical cases properly treated gives a low operative mortality, a low incidence of postoperative complications, and a high percentage of satisfactory end results. Such has been the experience of many clinics and surgeons. When hyperthyroidism is complicated by other conditions or present in an atypical state, the results are apt to be less satisfactory, and in this group the mortality may be considerably higher. It is the purpose of this paper to call attention to a number of conditions complicating hyperthyroidism as we have encountered them in the treatment of a large number of thyroid patients at the Lahey Clinic.

Up to September, 1940, 19,500 operations for goiter were performed in our clinic. Of these, approximately one-half were for exophthalmic goiter or primary hyperthyroidism as we term it. An additional 20 per cent of the total group had hyperthyroidism associated with pre-existing goiter (secondary hyperthyroidism). Thus 70 per cent of the entire series had hyperthyroidism. Approximately 12 per cent of all toxic patients had hyperthyroidism complicated by other conditions or states. This important group deserves special consideration and discussion.

The Extremes of Age

The very young or elderly patient with hyperthyroidism offers somewhat different problems from the routine case. The signs and symptoms

of hyperthyroidism in the pre-adolescent child are usually quite typical and the diagnosis can be readily established. In the milder cases the diagnosis may be a problem since the basal metabolic rate may be unobtainable or unreliable due to technical difficulties of getting a satisfactory test. If the diagnosis is not certain, it is best to delay treatment until hyperthyroidism can be established. There has been a tendency on the part of pediatricians to try to avoid operation even in patients with clear-cut hyperthyroidism. It is our opinion that operation should be advised without delay in any child in whom the diagnosis is clear. This is particularly important because of the effect of the hyperthyroidism on the bony structures. We have observed early appearance and development of the ossification centers and greater growth at the epiphyses resulting in lengthening of the long bones beyond normal. Likewise, if exophthalmos is present and permitted to remain longer than a year, the possibility of permanent change in the appearance of the eyes is great.

Over 100 children, age 13 or younger, have been operated upon for hyperthyroidism. From this experience 3 differences in surgical treatment have been learned. First, the child requires a longer period of preparation for operation, 14 to 16 days being required before satisfactory clinical improvement is evident. Second, it is usually advisable to divide the operation into 2 stages, performing hemithyroidectomies with an interval of 6 weeks between operations. We have considered stage operations necessary since it is difficult to estimate the operative risk or foretell the degree of reaction that the child will have to operation. Probably few individual surgeons have sufficient experience in the treatment of children with hyperthyroidism for them to judge whether subtotal thyroidectomy in one stage can be tolerated. It must be admitted that the divided operation offers less risk. Third, it is necessary to leave relatively larger thyroid

Read before the Section on Surgery of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 2, 1940. From the Department of Surgery, The Lahey Clinic, Boston, Mass.

remnants than in adults. In case too radical a thyroidectomy has been done it means that the administration of thyroid extract may have to be continued for a lifetime. Satisfactory thyroid function is essential for normal growth, particularly during the adolescent period to follow.

Approximately 1 per cent of toxic thyroid patients are pre-adolescent children. In our group two-thirds of the operations have been performed in stages. There was one operative death which occurred following a first-stage hemithyroidectomy. Two recurrences have been encountered, one 6 years after operation, and one, one year after operation. Both of these patients were submitted to subtotal excision of thyroid remnants. The low recurrence rate (2 per cent) seems to justify the larger thyroid remnants that we feel are essential.

Hyperthyroidism in the aged patient may be difficult to recognize since the effects of the disease in this aged group are less striking. Exophthalmos is not commonly present and there may be no widening of the palpebral fissure. Stare and diminished winking are more often observed. The pulse rate is elevated, but is in the 80 or 90 range rather than in the higher rate usually encountered. The basal metabolic rate may fall in the range of the upper normals, but will usually be found between $+15$ and $+30$. In these cases repeated metabolism tests on successive days give consistent findings. In other words, if the basal metabolic rate is found to be $+20$, it will be found at this same level on repeated examinations, whereas in the nontoxic patient at this age subsequent tests are found to fall within the normal range. A fine tremor is present but must be carefully differentiated from the common coarse tremor seen in patients of this age group. A careful review of symptoms should make one suspect the presence of hyperthyroidism, and the diagnosis can be confirmed by the findings of a firm thyroid gland, a fine tremor, persistent tachycardia, together with the presence of weight loss with reasonable food intake. Dr. Lahey called attention to this elderly group of thyroid patients, referring to them as the "apathetic type" in contradistinction to the usual "activated type" seen in mid-adult life. It seems especially important to call attention to this group since so many of them are unrecognized and are treated as heart cases because of the persistent tachycardia or because of evidences of decompensation.

Approximately 3 per cent of our patients with toxic goiter are age 65 or more, so that they present a problem that frequently confronts us. Surgical treatment should be advised for all of

these patients and has been successfully carried out in a number of patients between 75 and 80 years of age. In reviewing the history the loss of weight will be the best indication of the onset of the disease. A long period is required for preparing these cases for operation, most of them being operated upon between the second and third week of hospitalization. The best criterion of successful preparation is a substantial gain in weight. A material drop in the pulse rate and basal metabolic rate can hardly be expected, and since excitation and nervous symptoms are not prominent, they cannot be used as a guide.

Stage operations are required for most of these patients. The amount of weight loss and duration of the hyperthyroidism are the best indications for the need of stage operations in these cases. We perform between 15 and 20 bilateral superior pole ligations each year in somewhat over 1000 thyroid operations, and find that most of these are done in this group of patients over age 65. In case pole ligations are considered necessary, it makes the subtotal thyroidectomy a 3-stage procedure, 4 to 6 weeks elapsing between the first and second stages, and 6 weeks between the second and third stages. The administration of Lugol's solution is continued throughout this entire period. Radical removal of the thyroid gland should be carried out in all of these cases. It must be assured that no possibility of residual or persisting hyperthyroidism will occur. A mild degree of hypothyroidism is of no consequence, and even severe degrees are less important in this age group where both mental and physical activity may be restricted. The operative mortality, even with the conservative management previously outlined, still is twice that of the total group of patients having subtotal thyroidectomy for hyperthyroidism.

Cardiovascular Disease

The patients with hyperthyroidism and some form of cardiovascular disease can be divided into 2 general groups. The first group includes all patients with hyperthyroidism who have rheumatic heart disease, hypertensive heart disease, arteriosclerotic heart disease, and so forth, without evidence of cardiac decompensation or abnormality in rhythm. These patients require no different preparation from the routine treatment of hyperthyroidism other than medical consultations and close observation of the patient during both preoperative and postoperative periods. The second group are the thyrocardiacs, so termed by Dr. Lahey. It is this group that re-

quires a specialized management because of the increased risk of operation.

Lewis M. Hurxthal,¹ of the medical section of the clinic, has defined the thyrocardiac as "(1) any patient with hyperthyroidism who has established auricular fibrillation or flutter up to the time of operation; (2) any patient with hyperthyroidism who has clear-cut congestive heart failure when first examined regardless of the type of coincident cardiovascular disease present or functional irregularity found." There is no specific change in the heart muscle due to hyperthyroidism since the disease affects the heart muscle just as it does other tissues of the body, particularly depleting the store of glycogen. A comparison of the heart size by roentgenographic observation of a group of patients with and without hyperthyroidism reveals that there is little difference if the same age group is selected. In the presence of pre-existing heart disease, hyperthyroidism must be considered responsible for the onset of decompensation or irregular rhythm.

In one series of 7363 patients with hyperthyroidism, 424 cases were encountered in which there was established auricular fibrillation, that is 5.8 per cent of the total group. A larger number of patients, approximately 10 per cent of all cases, have auricular fibrillation postoperatively.

The preoperative treatment of thyrocardiacs is directed toward the relief of decompensation, continuing at the same time the routine preparation of toxic cases by rest, Lugol's solution, sedatives, and a high caloric diet. All thyrocardiacs, both those with decompensation and those with established auricular fibrillation or flutter, are digitalized preoperatively and a maintenance dose continued during the postoperative period. No attempt is made to restore the rhythm to normal by means of quinidine during the preoperative period. If digitalization does not cause disappearance of edema, diuretics are used. Rarely, venesection is necessary in the long-standing decompensated case.

Two to three weeks are required to prepare the thyrocardiac for operation. Many of these cases require stage operations, consisting of hemithyroidectomies with an interval of 6 weeks. The digitalization is continued during the period between operations. Radical subtotal thyroidectomy should be carried out in all thyrocardiacs in order to decrease the number of cases with persistent or recurrent hyperthyroidism, since this is a more serious complication in this group. A mild postoperative hypothyroidism is certainly more to be desired and causes little difficulty in

these cases. We have recently observed that cyclopropane as the anesthetic agent, when used in sufficient concentration to give a satisfactory general anesthesia, tends to produce cardiac irregularity in patients with coincident cardiovascular disease. Cyclopropane is the routine anesthetic agent for our toxic thyroid cases, but we do not believe it is advisable unless diluted by other gases for operations on the thyrocardiac. The percentage of cyclopropane in these cases should not exceed 10 per cent and to it can be added nitrous oxide, or ethylene, or a small amount of ether. It is particularly important to maintain high oxygen concentrations for these patients since it has been clearly demonstrated that the so-called "thyrotoxic heart" tolerates oxygen deficiency badly.

Immediately postoperatively all thyrocardiac patients are placed in oxygen tents and this administration of oxygen is continued for a minimum of 48 hours. Three to five thousand cubic centimeters of fluid are administered daily in the form of 5 and 10 per cent glucose solution intravenously, limiting the total sodium chloride intake to 12 or 15 Gm. If a hemithyroidectomy has been performed, no attempt is made to restore the rhythm. In patients upon whom subtotal thyroidectomy has been done, quinidine is administered if the rhythm does not return to normal in 4 to 6 days postoperatively. Approximately one-half of patients with established auricular fibrillation will have restoration of normal rhythm within a short interval after operation. Quinidine therapy raises the total with restored normal rhythm to approximately 75 per cent. The mortality in 483 thyrocardiacs operated upon has been 4.3 per cent or approximately 5 times that for all cases with hyperthyroidism. Without specialized management for this group of cases a much higher operative mortality can be anticipated. These patients with a severe degree of decompensation have always been considered the most serious risks and all too often in the past they have been denied the benefits of subtotal thyroidectomy.

Pulmonary Tuberculosis

The management of hyperthyroidism in patients who have active pulmonary tuberculosis is a serious problem. The clinical evidences of both diseases are in some particulars similar. Each causes loss of weight, tachycardia, weakness, and incapacity. In the incipient stages of both diseases the differential diagnosis may be quite difficult. There may be a slight increase in the basal metabolic rate due to the pulmonary infection. Rarely does tuberculosis involve the

thyroid gland primarily, so that in these cases we can depend on the physical characteristics of the gland to help in the establishment of the diagnosis. Healed pulmonary tuberculosis is a not uncommon finding in patients with hyperthyroidism and it nowise should affect the routine management of the toxic thyroid patient. Unquestionably hyperthyroidism predisposes to activation of tuberculosis and definitely hinders the satisfactory treatment of the pulmonary condition. As I have previously pointed out, rest is impossible in the presence of hyperthyroidism with the constantly increased metabolic activity. When the diagnosis of hyperthyroidism and concomitant pulmonary tuberculosis is made, treatment should be directed to the thyroid condition first. A preoperative period of 3 weeks' hospitalization, utilizing the high caloric diet, vitamins, as well as the usual thyroid measures, is employed. Subtotal thyroidectomy can usually be done in one stage unless the severity of the hyperthyroidism itself demands a divided operation. The usual treatment of the patient with pulmonary tuberculosis suffices to give the best convalescent care for the postoperative thyroid case. The operation can be performed under local anesthesia, although probably cyclopropane anesthesia, with its high concentration of oxygen, is not contraindicated.

Diabetes

Diabetes and hyperthyroidism in the same patient is not a common finding, but does occur in 1.5 per cent of toxic thyroid patients. From the standpoint of incidence the association of these 2 diseases is not striking, but they constitute an important group because of the increased hazards in the treatment of the hyperthyroidism. In most of the cases we have observed, diabetes has appeared first and during subsequent treatment of the diabetes a further weight loss has occurred which cannot be explained by the diabetes. Dr. Lahey and Dr. Joslin have reported 2 series of patients, calling attention to some difficulties in diagnosis and the additional hazard of operative treatment.

The best indication of the onset of hyperthyroidism is an unexplained loss of weight, usually in the patient beyond middle life. Glycosuria is a not uncommon finding with hyperthyroidism, so that the establishment of the diagnosis of diabetes in the mild case may prove difficult. Drs. Joslin and Lahey^{2,3} have pointed out that "it is necessary to raise the standards for the diagnosis of true diabetes in hyperthyroidism from 0.13 and 0.16 per cent to a blood sugar of 0.15 per cent fasting or 0.20 per cent or more

after meals in addition to glycosuria." Any patient with diabetes who has enlargement of the thyroid must apparently be considered as one having possible hyperthyroidism. In many of these cases the basal metabolic rate is not much elevated, but will be found to be at a consistent level on successive days similar to that mentioned for the elderly thyroid patient. When it is difficult to establish the presence of hyperthyroidism, a therapeutic trial of Lugol's administration may prove helpful. Under these circumstances if the metabolism test is found to be in the vicinity of +20 to +25 and there is a tachycardia present and a thyroid enlargement, 7 to 12 days after the administration of Lugol's solution some clinical improvement may be evident and the pulse and the basal metabolic rate materially lower. Under such circumstances we feel that subtotal thyroidectomy should be advised. We do not wish to recommend that every patient with thyroid enlargement and diabetes should have thyroidectomy, but if a reasonable doubt exists as to the presence of hyperthyroidism, then operation should be carried out. Total ablation of the thyroid has been reported by Pemberton and Wilder, with improvement in the diabetes. A sufficient number of cases has not been reported nor have the results so far justified such a radical procedure.

In view of the fact that patients with hyperthyroidism and diabetes are frequently in the advanced age group, have great weight loss, and disturbed carbohydrate metabolism, stage operations are necessary in many of these cases. Twice as many stage operations are done in patients with associated diabetes as in the uncomplicated cases of hyperthyroidism. In the first series reported by Drs. Lahey and Joslin the operative mortality was 4.8 per cent. The mortality in the second series was 1.6 per cent, a reduction largely due to more conservative surgical methods, since 22 per cent of stage operations were done in the first series and 49 per cent in the second series. This mortality is still double that for the total group of patients with exophthalmic goiter.

Patients with hyperthyroidism and diabetes who have had subtotal thyroidectomy show improvement in the diabetic condition. Whether this improvement is solely that for which the hyperthyroidism is responsible cannot be determined. It must of course be admitted that hyperthyroidism aggravates the diabetic condition and subtotal thyroidectomy results in increase of carbohydrate tolerance and likewise a decreased demand for insulin administration. Based upon our experience with these 2 asso-

ciated diseases, we feel that they must be approached with caution and stage operations frequently employed. While these cases may not have evidence of the usual danger signals seen in the severe cases of exophthalmic goiter, all must be considered to carry an increased surgical risk.

Jaundice

Jaundice is present in approximately 0.5 per cent of toxic thyroid patients. Its presence indicates a most serious prognosis. Usually it is an indication of the presence of crisis or impending crisis. Rarely is the degree of jaundice profound, there being a slight elevation of the blood bilirubin, an icteric tinge to the sclerae and skin. The liver may be slightly enlarged and tender. Patients with this finding require very careful preparation, being treated as possible thyroid crisis as will be outlined later. During the preoperative period investigations are undertaken to exclude gallbladder disease or obstruction of the biliary passages, as well as any blood abnormality. If it is proven to be due to disease of the biliary tract, treatment of this condition is delayed until after relief of the hyperthyroidism.

Pernicious Anemia

We have encountered a few cases with typical pernicious anemia in whom hyperthyroidism was proven. Pernicious anemia itself may cause a slight elevation of the basal metabolic rate and, if severe, tachycardia may be persistent. The incidence of these 2 findings is not great enough to make it a difficult diagnostic problem in establishing the presence or absence of hyperthyroidism. Unless the pernicious anemia is complicated by cardiac decompensation or is of an extreme grade, treatment should be directed to the blood condition first, but continuing iodine administration during this period. In severe cases blood transfusions should be given to raise the blood to a level consistent with going ahead with thyroidectomy.

A larger number of patients are seen with moderate or severe secondary anemia. It seems best in both of these groups of cases to attempt to get a partial remission of the hyperthyroidism by medical means while continuing active treatment of the anemia. In this way operation may be reasonably delayed from 4 to 8 weeks unless the hyperthyroidism becomes aggravated while the patient is under observation. Thyroidectomy should not be carried out until the hemoglobin has been raised to 70 per cent or more.

Myasthenia Gravis

Weakness of the skeletal musculature is a common finding in long-standing hyperthyroidism. This muscular weakness may appear early in the disease and be demonstrated by means of the quadriceps test. Likewise the eye muscles may be weakened, particularly in those cases with pronounced exophthalmos. The severe, general muscular weakness in the advanced cases of hyperthyroidism simulates that of true myasthenia gravis. The infrequency of the association of these 2 conditions indicates that it probably is a coincidental finding. When present they point to a grave prognosis. Treatment of the myasthenia by ephedrine and glycine should be carried out for a considerable period before operation is permitted, utilizing ephedrine in 25 mg. doses at least 4 times a day, and 20 to 30 Gm. of glycine daily, as suggested by Frank N. Allan. Operation should be performed under intratracheal anesthesia in order to make certain that the respiratory exchange is guaranteed throughout the operation. All of these patients should have constant nursing care, particularly during sleep and while drinking and eating. If there is any evidence of respiratory obstruction during the postoperative period, tracheotomy should be done at once. One of our patients died on his fourth postoperative day; marked weakness of the pharyngeal muscles was present but he had been carried through the first-stage operation successfully. While he was taking nourishing fluids a considerable portion passed into the tracheobronchial tree, resulting in death in a few minutes. It seems necessary to accept the added risk in patients with myasthenia gravis and hyperthyroidism, since the hyperthyroidism tends to aggravate the muscular weakness.

Cancer of the Thyroid

In our series of patients with hyperthyroidism 17 were treated who had carcinoma of the thyroid. Without much question, carcinoma in these cases is a coincidental finding. In some only small foci of carcinoma were found, while in others all of the gland was involved and both hyperplastic and malignant tissue found. There is no question concerning the diagnosis of malignancy of these cases since those in the more advanced stages subsequently died from malignancy.

Approximately 8 per cent of patients with true exophthalmic goiter or primary hyperthyroidism are found to have a discrete fetal adenoma somewhere in the substance of the gland. Such an adenoma unquestionably is the seat of malignancy in the rare cases where it is

encountered. It is difficult to make a preoperative diagnosis of malignancy in most of these cases, although the diagnosis of hyperthyroidism is not difficult. Operation has been performed in all 17 cases. When an area of suspected malignancy is encountered in the gland during thyroidectomy, an immediate frozen section is obtained, and if it is a localized area, total hemithyroidectomy is performed, with a subtotal hemithyroidectomy of the opposite side. In the more extensive cases total removal of the gland as far as is practicable is carried out. Postoperative roentgen-ray therapy is given to all patients. There is no question of the relief of the hyperthyroidism since the combination of operative treatment and postoperative radiation therapy takes care of this question. The end results are the same as for similar cases of malignancy of the thyroid gland.

Pregnancy

We have encountered hyperthyroidism during all the months of pregnancy. Diagnosis is not difficult and is established by the usual signs and symptoms. Determination of the basal metabolic rate is not of value in the borderline cases since it is moderately elevated after the first 3 months. There need be little change in management of the hyperthyroidism complicated by pregnancy. Operation is advised and carried out up to and including the eighth month. With rare exceptions subtotal thyroidectomy in one stage has been performed and has been carried out without operative mortality. With a single exception all cases have gone on to normal delivery, and there has been no evidence of thyroid abnormality in the babies born of patients with previously existing hyperthyroidism. The exception was in a woman, age 34, who miscarried during her fifth month. There were twin fetuses and examination pointed to their nonviability at the time of operation. It is our opinion that subtotal thyroidectomy should be done for patients with hyperthyroidism and pregnancy, since we deem it inadvisable to let them go through their delivery with hyperthyroidism still present. From a survey of a series of patients with hyperthyroidism, it has been noted that pregnancy was considered an initiating factor in the development of hyperthyroidism. For this reason we advise women who have had an operation for hyperthyroidism not to become pregnant for at least one year after operation.

Infection

The intensity of hyperthyroidism is frequently increased by intercurrent infection and at times

thyroid crisis develops in these cases. In patients with mild, diffuse upper respiratory infection, operation is delayed until the infection has entirely subsided. We feel that it is important to keep these patients under observation in the hospital during this period. Focal infection has frequently been stated to be an initiating factor in some cases of hyperthyroidism. This is hard to substantiate, but whatever the opinions held, the foci should not be treated previous to the relief of the hyperthyroidism. In other words, if dental infection is demonstrated, it is inadvisable to direct treatment to it for at least one month after subtotal thyroidectomy. There are circumstances in the treatment of hyperthyroidism that bring up a very difficult problem in regard to treatment. The development of acute appendicitis or acute cholecystitis during a preoperative period of observation becomes a very serious matter. If these patients are treated as possible candidates for thyroid crisis, appendectomy or drainage of the gallbladder can be done previous to the thyroid operation. The important consideration with regard to infection is that the danger of the development of a thyroid crisis precipitated by infection is fully appreciated.

Other Conditions

Each patient with hyperthyroidism has a very careful history taken and a complete physical examination. Other conditions are frequently encountered, the most frequent being of a gynecologic nature. These should be noted and if operation is indicated, it should be planned for 3 to 6 months after subtotal thyroidectomy. On several occasions we have found malignancy of the stomach and colon in patients with typical hyperthyroidism. Under such circumstances they are prepared for subtotal thyroidectomy, the operation performed, and during the same hospital admission, 10 to 14 days after thyroidectomy, the other operative procedure, which cannot be delayed, is carried out.

Thyroid Crisis

While a preoperative thyroid crisis is a direct result of hyperthyroidism, it is frequently brought on by other conditions associated with hyperthyroidism. In these cases exaggeration of the nervous symptoms and excitation are observed. The excessive nervousness and excitation may go on to delirium and, later, to unconsciousness. The other symptoms characteristic of crisis cases are gastro-intestinal symptoms; nausea and vomiting appear, diarrhea is the rule, and jaundice may become evident. The onset

of crisis may be surprisingly rapid and unexpected.

All patients with crisis or impending crisis should be treated as emergency cases.

There are 5 things available for the treatment of thyroid crisis that occurs either preoperatively or postoperatively:

1. Fluid and salt. Large amounts of fluid are lost in these cases due to vomiting and diarrhea, as well as lost by sweating. Likewise, there may be depletion of the sodium chloride; 3000 to 5000 c.c. of fluid containing 15 to 20 Gm. of sodium chloride are given daily by means of a continuous intravenous drip. This amount of fluid is continued unless edema appears.

2. Sedation. Morphine is given in sufficient quantities to keep the patient quiet. A quarter grain of morphine is usually given every 3 hours unless the respirations become depressed below 12. At times the morphine is replaced by one of the barbitol derivatives. Sufficient sedative does decrease some of the metabolic activity and nervous symptoms.

3. Glucose. Glycogen reserve in these cases is depleted and a large amount of glucose is given by intravenous and subcutaneous administration; 200 to 500 Gm. of glucose are given daily usually in either a 5 or 10 per cent solution with part of the amount being given in a concentration of 50 per cent intravenously over a short period. If glucose is given intravenously by the slow drip method, there will be very little spilled over into the urine.

4. Iodine. Iodine may be given in any form, but in these cases it cannot be given by mouth. We have not found absorption by the rectum to be satisfactory. For a number of years we have placed 50 drops of Lugol's solution directly in the flask containing 1000 c.c. of intravenous fluid. Likewise we have utilized 30 minims of Lugol's solution in each flask of 1500 c.c. of normal salt solution which was given subcutaneously or intramuscularly. We have seen no bad effects from this in a large group of cases. It is important that an excess amount of iodine is given and 100 minims daily is considered adequate.

5. Oxygen. All patients are placed in an oxygen tent containing a concentration of oxygen at 40 to 50 per cent. This is continued for the number of days that the patient remains in crisis. It has been the best means for reduction of temperature and rapid pulse, as originally pointed out by W. M. Boothby and S. F. Haines, and undoubtedly has been life-saving in a number of patients.

Adrenal extracts and other medication have been used in thyroid crisis, but there is little proof that anything other than the 5 things mentioned is of use in the treatment of these cases.

Operation on patients who have been in thyroid crisis is delayed for 3 to 4 weeks since it requires this time to get them in reasonable condition. We feel that it is unwise to permit these patients to leave the hospital even after recovery from thyroid crisis, but insist that thyroidectomy be carried out. Stage operations are done in all of these cases.

Summary

Ten to 12 per cent of patients with hyperthyroidism have it complicated by other conditions. Many of these aggravate or increase the severity of the hyperthyroidism, and in turn many of these conditions are made more severe and more difficult to treat by the hyperthyroidism. The management of these cases must be somewhat specialized and directed so as to treat both of the conditions. With rare exceptions, it is best to prepare patients for subtotal thyroidectomy and carry out operation without undue delay. A longer period of preoperative preparation is usually necessary. Closest co-operation between the internist and surgeon is necessary in the management of these cases, both preoperatively and postoperatively. It should be appreciated that there is a definitely increased risk, and a higher operative mortality should be anticipated. By conservative preparation and utilization of stage operations, mortality can be kept to a reasonable level, but will still remain approximately 2 or 3 times that for the routine cases of exophthalmic goiter. The relief of hyperthyroidism in these cases frequently results in marked benefit to the associated condition.

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ABSTRACT OF DISCUSSION

HAROLD L. FOSS (Danville): Dr. Cattell has spoken authoritatively, as he always does when dealing with this important subject, one with which he has had a vast experience.

I can best occupy the time allotted to me by emphasizing several points which he made and which I thought especially significant. In children, as he has stated, a longer period of preparation is required than with the average adult. It is also true that one must perform the operation with especial care, particularly as to the amount of gland that is removed. I have seen a number of children operated upon in other clinics,

and in my own as well, in whom I have realized that too much of the gland was removed. Yet it is better perhaps to have some degree of *hypothyroidism* and have the child recover than to have it die from hyperthyroid crisis without the benefit of operative interference. While a total thyroidectomy can be carried out with impunity in an adult of advanced years, without danger of materially disturbing the metabolic processes of the body, such a procedure would be fatal in a child of possibly 10 or 12 years. Postoperative hypothyroidism must be guarded against with especial care when operating on children with exophthalmic goiter.

The matter of metabolism tests was referred to by Dr. Cattell. I have often mentioned that a great deal of harm may be done with basal metabolic devices. Some of this apparatus for the determination, by quick methods, of basal metabolic rates and on which the diagnosis is frequently made, often reveals a high reading which is not truly indicative of hyperthyroidism. In borderline or questionable cases we take 2 or 3 successive readings on 3 separate mornings, not averaging them, but taking the last as the one on which we depend.

Dr. Cattell spoke of hyperthyroidism in the aged. In the younger patient one can promise, almost always, a cure with a small fraction of one per cent mortality. In the aged the problem is a far different one and but few surgeons who see many of these patients are able to keep their operative mortality much under 4 per cent. Such patients suffer from associated conditions incident to the degenerative diseases of advancing years, particularly cardiovascular changes.

We are realizing that cyclopropane is one of the best anesthetics in thyroid surgery, and yet it is an extremely potent one and must be used with greater caution than we at first thought, especially in thyrocardiacs. It is an excellent anesthetic, but should be given with great caution, and by a good anesthetist. It is somewhat dangerous to use in patients who are poor risks, or perhaps in children.

The definite improvement shown in the diabetic with associated hyperthyroidism, following an appropriately planned and well-performed operation, is very striking. The procedure has no direct effect, in all probability,

on the islands of Langerhans, but, by decreasing cellular metabolism and removing the extra burden upon the diseased pancreas, the patient is definitely helped.

Dr. Cattell spoke of intratracheal anesthesia. We have in this method one of the most valuable means of rendering the patient insensible to pain, especially those patients with retrotracheal and intrathoracic goiters or who, because of disease of the upper part of the respiratory tract, might be expected to take the anesthetic badly. When one suspects at all that, after the anesthetic is started, there may be difficulty in securing a thorough and complete gas exchange, one should always have at his elbow a competent bronchoscopist and should, from choice, start the patient with intratracheal anesthesia.

Crisis remains the most dreaded of complications. Crisis patients who die following an operation die, as a general rule, within 48 hours. The patient with hypertension, complicated by cardiovascular disease, who survives 3 days will nearly always recover.

Little else can be suggested as outlined in the treatment of crisis by Dr. Cattell. The pathologist and physiologist have not made clear to us just what the mechanism of crises actually is. We analyzed our thyroid deaths in a paper presented before the American Medical Association last year. Except for the characteristic enlargement of the thymus, and the usual cardiovascular changes which are often merely incidental, hepatic degeneration was about the only constant postmortem finding we demonstrated. This has been the experience of others who have conducted similar studies.

In every clinic where many thyroid cases are treated one should be prepared to have a private room or at least a semiprivate room in readiness for the serious risk patient with advanced hyperthyroidism, especially when a postoperative storm is anticipated. Our patients, free or private, who are bad risks are invariably placed in an oxygen tent and in a private room. In addition to the routine use of oxygen when crisis is anticipated, blood transfusions and Lugol's solution, as outlined by Dr. Cattell, given intravenously, are extremely important.

HEAT-KILLED BACTERIAL VACCINE FAILS TO PREVENT COMMON COLDS

A carefully controlled study of the heat-killed bacterial vaccine for the common cold revealed no evidence that it was of value in a group of cold-susceptible students in the University of Minnesota, H. D. Diehl, M.D., A. B. Baker, M.D., and D. W. Cowan, M.D., Minneapolis, report in *The Journal of the American Medical Association* for Aug. 24.

Their study was based on 2 groups of cold-susceptible students. The control group, the members of which believed that they were receiving vaccine, were given hypodermic injections of sterile salt solution at the same intervals that the experimental group received the vaccine.

"During the year of the study," the 3 physicians report, "the persons who received the vaccine reported an average of 2.1 colds per person. This is a reduction of 55 per cent from the average of 4.7 colds which

these same students reported that they had had during the year prior to the study. This is as great a reduction as has been reported in most of the studies which conclude that these vaccines are of value.

"However, our control group, who received only the salt solution, reported an average of only 1.9 colds during the year of the study, a reduction of 61 per cent from the average of 4.9 colds which was reported for the previous year.

"From these figures it is apparent that there is no evidence in this study that the vaccine had any influence on the average number of colds suffered per person."

These conclusions are parallel to those reported by these same physicians in 1938 from a study which was similar but in which the organisms in the vaccine were destroyed mechanically instead of by heat. This last study was undertaken after it had been contended the previous study should have included the heat-killed bacterial vaccine.

Organized Medicine in a Community Health Program

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A LITTLE less than 35 years ago, I started as a callow youth to practice medicine in a little village of 700 people in Bucks County, Pennsylvania. At the same time, a classmate of mine located in another small village about 6 miles away. They were horse and buggy miles.

We both affiliated immediately with the county medical society. About a year or so later, under the auspices of the North Penn Branch of the Bucks County Medical Society, we carried on a 2 weeks' campaign on tuberculosis.

At that time the armamentarium in our fight on tuberculosis consisted of fresh air, sunshine, rest, and forced feeding—largely milk. Our diagnostic tools were the fingers, eyes, ears, sputum examinations, thermometers, and history; no roentgen rays, no skin tests, no pneumothorax. Night air was supposed to be deadly and a cough called for indoor treatment, nauseating medicines, etc. The effect on that community from Lansdale to Quakertown, as far as home ventilation was concerned, was really remarkable.

I cite this because it was my first experience in a community health program. This was inspired by local doctors and the program was carried through by local doctors. These men were all practicing physicians, the men to whom each one of us instinctively go when health is involved. We may discuss community and national health problems all we please, but when you and I have a personal health problem, we consult Dr. Smith or Dr. Jones around the corner.

These are the men that constitute the county medical society. They are the infantrymen of medicine. They enter every home in the community from hovel to palace and from rooming house to hotel. They constitute organized medicine. The state society is a federation of these county societies and the American Medical Association is in turn a federation of the state societies. This means that organized medicine in the United States begins and ends with the family physician. This is the American way.

Groups having common interests have been gathered into guilds, societies, and organizations since time immemorial. Such organizations offer forums for exchange of thoughts and experiences. In the field of medicine its organization has resulted in stimulation of effort, establishment of standards (ethical and technical), and the study of social and economic problems as related to medicine and health.

With the tremendous expansion of health activities along both scientific and social lines in the past 50 years has come the necessity for specialization. No longer can the family physician as such exercise all the functions of modern medical requirements. Quite naturally, specialization brought about the birth of the many organizations devoted to the study and advancement of each special field. These organizations are all arms of the great complex body of organized medicine today. Growth has, however, not been uniform nor symmetrical along all lines, so that the organizational structure of medicine today presents a more or less grotesque figure of long arms and legs. The growth of the torso has not kept pace with the relatively overstimulated development of its parts.

Public health has taken long strides since that little tuberculosis campaign along the North Penn, back in 1908. It has become a highly specialized field in American medicine.

Organized medicine has come in for considerable unjust criticism because it, as the torso of this medical structure, has apparently not kept pace with the development of its right arm—public health. May it not be that the failure of co-ordinated growth was due largely to an underestimation of the part organized medicine could play in the advancement of public health?

Neither organized medicine nor the public health agencies need be blamed for this condition. The reasons, I think, are natural. While the medical profession long ago recognized the necessity for the expansion of public health activities, it looked upon them as largely governmental functions, not realizing that the field of public health should remain an integral part of

Read before the First Pennsylvania Health Institute at Harrisburg, Jan. 8, 1941.

the general field of medicine and not become an isolated offshoot. The profession may not have realized that the practicing physician should be an essential unit in all community health activities. This attitude was probably quite natural since organized medicine was busy planning for the postgraduate education of the practicing physician and the many other problems of individualized medical care. In the meantime changing social and economic conditions, together with broadened conceptions of public health needs, were expanding public health activities so that this field became no longer just a negative policing agency.

To say, however, that organized medicine is alone at fault for its so-called delinquencies would be unfair and inexact, nor would it serve the purposes of this discussion to dilate upon the other side of the picture—and there is another side to the picture. As a representative of the practicing physician, I am quite willing to acknowledge our deficiencies and leave it to others to complete the history. The important consideration is that we come to a full realization that maximum progress in public health can be attained only by each realizing that the other is an essential part of the whole. In other words, whereas in the past the fields of public health and the practicing physician may have taken somewhat divergent courses, the time has come when these lines must converge, for our objectives are identical. Criticism, one of the other, will serve no useful purpose unless that criticism is constructive and offered for enlightenment.

One of the major functions of organized medicine in any community health program is to develop within its ranks a realization of the individual's responsibility for the development of such programs. The physician in private practice, we know, is not as universally sensitized to this broader scope of his responsibilities as he should be. He needs to be awakened to a fuller realization of his value to society as an educator of his people. Instead of condemning him for his deficiency, the deficiency should be corrected.

One of the major functions of specialized public health service is to make more effective the services of the practicing physician. Neither can be eliminated nor can either be fully effective without the other.

But what is a community health program and how does it involve the practicing physician? Is it not true that all phases of health activity are in the last analysis directed toward the individual citizen? All preventive measures finally resolve themselves into the welfare of the individual.

The health of the community is a reflection of the health of the individual. Disease incidence, morbidity and mortality rates are simply the summation of individual experiences. A community health program is dependent for success upon an aroused community health consciousness, but I submit that the degree of this community consciousness is in direct proportion to the level of development of health consciousness in the individuals in that community.

One major approach, then, to all community health problems is by way of intensified health instruction. The average citizen is the fellow who pays the bill, but he also reaps the benefit. He, then, must be sensitized to the value of good health. He must be taught to look to the trained physician as his guide in health matters. He must learn that the quality of medical service available today is worth infinitely more than it was in the horse and buggy days. He must know that the price for good health, whether individualized or community, is paid not only in dollars and cents but also in terms of personalized co-operative responsibility. He must know that health cannot be presented to him by government largess alone.

Who, then, is better suited to carry this message to Tom, Bill, and Mary than the family physician? I cannot conceive of a better medium of contact with every home, every man, woman, and child in the country than the practicing physician. When he speaks on matters of health, the family listens to him as to one with authority.

That little trial balloon back there in Bucks County, 30 odd years ago, demonstrated to that community the potentialities of the practicing physician and the county medical society. We worked alone, without support or encouragement from any public agency.

A little over 10 years ago the Philadelphia County Medical Society launched a program to reduce maternal mortality. It was inspired and engineered by Philip F. Williams, M.D., and carried throughout the state through the medium of the State Medical Society. The campaign was carried to the physicians, maternity hospitals, and the public. After 10 years we are able to show tangible results that are truly remarkable. The vital statistics records show a reduction in maternal mortality from 68 to 25 per 10,000 deliveries. This was a program sponsored by the county and state medical societies and manned by practicing physicians. One striking feature of this work was the ease with which improved technic and supervised control was brought about in the maternity hos-

pitals. It was done without legal enactment but entirely by the moral force of education of physicians by their fellow members. This is, however, not a plea for the placing of the task of health education in the lap of the county or state medical society. On the contrary, it is because I believe the pace can be augmented and because of what has been demonstrated in Pennsylvania in the past few years that I have the temerity to present this discussion.

The family physician cannot be eliminated from any successful program of public health. He must be an integral part to make such programs fully effective. Every move to replace him by impersonal governmental agencies will eventually tend to defeat worth-while health objectives. The first functions of public agencies should be to increase the efficiency of the family physician as an important aide in a community health program by utilizing to the fullest the intimate relationship he holds to the individual citizen and the home. He should be the salesman, the detail man if you please, for health departments. Co-operative teamwork should be the watchword instead of armed neutrality or open antagonism of one toward the other.

We have repeatedly proved here in Pennsylvania that it is possible to have a county medical society work hand in hand with the Department of Health in the instruction of the public in health topics. The activities of various committees and commissions of our State Society have received an impetus that previously was hardly dreamed of. I believe I am safe in saying that the tasks of the Department of Health have been made easier by its alliance with the State Medical Society.

In our State Society we have established Commissions on Pneumonia, Cancer Control, Diabetes, Maternal Welfare, Pediatric Education, Acute Appendicitis Mortality, Venereal Disease Control, Mental Hygiene, Conservation of Vision, Deafness Prevention and Amelioration, and Industrial Health, with a new Committee on Nutrition just authorized. These groups are in most instances so constituted as to include a representative from each of the State Society's 12 councilor districts. Most of them, particularly those on Pneumonia Control, Tuberculosis, Maternal Welfare, Cancer Control, Diabetes, and Industrial Health, have subcommittees in each county society. The personnel of the State Society committees are invariably headed by outstanding leaders in the particular field of each committee or commission, and the membership is chosen from the ranks of those locally identified with each field.

From these groups emanate monographs and reprints which reach every member of our society. State-wide surveys of inestimable value to the public have been engaged in and consummated. Some of the commissions referred to have been active for more than 30 years.

Until recently these activities were largely confined within the structure of the county and state societies. Now, in many instances, the chairmen of the Medical Society commissions or committees are also on special advisory committees to Pennsylvania's Secretary of Health. By means of the splendid organization developed by the Health Department's Division on Education, under the genius of Mrs. Kech, representatives of these groups are able to reach the lay public in a more effective manner than was previously possible.

To be specific, permit me to present a few facts. The chairman of the State Medical Society Commission on Cancer Control, Stanley P. Reimann, M.D., is the chief of the Division on Cancer Control of the State Department of Health, under Dr. Shaw. While our State Society program had been going on for 33 years, its activities were limited. Under the sponsorship and expanded facilities of the State Department of Health, Chairman Reimann has been able to develop a program unequaled by any other state. One of the first and basic problems recognized by this commission was the need for more accurate statistics on cancer. This the Department of Health tackled courageously because the co-operative support of the county medical societies throughout Pennsylvania was assured to the Department of Health. In 18 months they have accumulated detailed records of 15,000 completed tumor cases in Pennsylvania. They soon found it advisable to increase the efficiency of available local pathologists. This is being done by making available to them a much greater supply of clinical material than previously. Already valuable data has developed. Intensified campaigns in public education, for early diagnosis, are being carried on. So much for cancer control.

Perhaps one of the most spectacular fields has been that of pneumonia control, under Edward L. Bortz, M.D. This program was also started in the State Society and carried to the membership through the county societies. The splendid impetus given the work from the onset, under the guiding genius of Dr. Bortz, has been greatly augmented by the more recent alliance with the State Department of Health. May I quote from a very recent bulletin issued by this State Society commission?

It will be a fortunate day for the people of the United States when public health officials understand clearly the individualized problems which are the daily concern of private medical practice and when in turn the practitioners will more energetically demonstrate a clearer conception of the broad problems which are the major responsibility of public health officials. The practitioner and the public health official each has his legitimate duty. Neither is equipped to take over the other man's job.

A new day has arrived in the field of medicine in Pennsylvania. At no time have more cordial relations and mutual respect been present than exist at the present time with health officials and physicians in practice, neither distrustful of the other, working hand in hand.

I can only indicate in passing the most comprehensive state-wide surveys by our Commissions on Diabetes and Acute Appendicitis Mortality, the latter being the first ever made in any state.

The accomplishments of our Emergency Child Health Committee, founded by Samuel McC. Hamill, M.D., are well known. Their program is still being carried on.

Note that all these activities are directly concerned in any community health program.

Perhaps the most unique and at the same time gratifying developments in the Pennsylvania health program in recent years is that both the State Medical Society and the State Department of Health are beginning to think and talk as a unit almost unconsciously. We are beginning to realize that our goal is the same and our paths cannot be divergent.

While we are gratified with what has been accomplished in the past few years, we know we

have only scratched the surface. There are countless problems still unsolved, many headaches still uncured, but we believe the way has been shown and the course laid for a program of health education for Pennsylvania that promises great things.

A discussion of this past year's experiences from the standpoint of organized medicine and the Department of Health might, of course, reveal the usual weaknesses of human nature that are so often the underlying causes of friction. Mistaken notions of self-interest and criticisms by the ignorant appeared, but we believe that if nothing more has been accomplished, one fact stands out. That fact is that the county medical society can and should play an important part in any community health program. We believe further that an understanding alliance between practicing physicians and public health agencies provides the most effective machinery for the achievement of effective health objectives, whether they be in the broader phases of preventive medicine or the more restricted personalized duties of the family physician.

To crystallize this discussion, I would conclude with this statement. While the technical field of service of the practicing physician and that of the public health physician are, in the main, clearly differentiated, the major broad objective of better community health calls for a co-ordinated, harmonious alliance between practitioners of medicine and the representatives of all public health agencies.

SMALLPOX VACCINATION SHOWS FURTHER RESULTS

Smallpox has practically disappeared in the United States where laws requiring vaccination for school attendance have been in force for a number of years, according to information just published by the United States Public Health Service.

In the 20-year period from 1900 to 1919 slightly more than three-quarters of a million cases of smallpox were reported in the United States, and in the 2 succeeding decades the number reported totaled nearly 700,000 cases, 75 per cent of which occurred in the decade from 1920 to 1929. During the period from 1900 to 1919, inclusive, 11,435 deaths from this disease were recorded, and from 1920 to 1939 the number fell to 5337, 90 per cent of which occurred from 1920 to 1929. These figures were made public in a report by C. C. Dauer, M.D., epidemiologist, District of Columbia Health Department, released Dec. 19, 1940, by the Public Health Service (Public Health Reports, Vol. 55, No. 50).

During the past 40 years there has been a progressive change in the type of smallpox seen in the United States, a change from a large proportion of severe cases with a relatively large number of deaths to a greater percentage of the mild type with very few deaths.

"This change in type of smallpox is one of the reasons for the marked decrease in deaths from the disease observed in recent years," Dr. Dauer stated in his report on the decline of smallpox.

A large proportion of the cases reported in the past decade have occurred in the north central and northwestern sections of the country, while in the eastern part of the United States the disease has practically vanished. In many of the states located in the eastern area a large proportion of the population has been protected by a continuous program of vaccination year after year. Nearly all of the cases reported in recent years have occurred in the sections of the country where there are no laws requiring vaccination for school attendance.

Round-Table Conference on Vitamins

THE Round-Table Conference on Vitamins was held Oct. 2, 1940, during the Ninetieth Annual Session of The Medical Society of the State of Pennsylvania at Philadelphia. Dr. K. O'Shea Elsom, Philadelphia, chairman, presided. Dr. Elsom was assisted by Drs. P. Robb McDonald, Milton Rapaport, T. Grier Miller, and Thomas E. Machella, Philadelphia, George J. Kastlin, Pittsburgh, Carl E. Ervin, Harrisburg, and Leonard G. Redding, Scranton, all of whom presented prepared papers.

Vitamin B Deficiency

K. O'Shea Elsom, M.D., Philadelphia, Pa.

In 1933, when we at the University Hospital first became interested in the problem of human vitamin B deficiencies, clinicians were skeptical concerning the likelihood of any such deficiency developing in this country. We had been told that vitamin B was widely distributed in common foods, and it was fantastic to believe that the average diet would be poor in these substances.

I remember very well standing before this organization in 1933, at which time I reported to you our success in treating with brewers' yeast a woman who presented a clinical picture at that time unrecognized as due to B deficiency. I remember that you received the report with certain incredulity. And now, as I stand before you 7 years later, the situation is entirely changed; instead of trying to persuade you to the belief of the existence of such a deficiency, I come to caution you concerning certain of the claims that are now being made for the newer vitamin therapy.

What has happened in this interval? In the first place, the public is becoming rapidly convinced of the frequent occurrence of mild degrees of deficiency in this country, and there are reliable data to prove the validity of this assumption. However, what the clinician is interested in primarily is just what clinical phenomena may safely be attributed to vitamin B deficiency. Dr. M. Arthur Blankenhorn discussed some of these, and now I would like to present a slightly different point of view.

As I have already mentioned, for the past few years at the University Hospital, and now at the

Philadelphia General Hospital, we have been engaged in carrying out a series of clinical experiments on the subject of human B complex deficiency. In these experiments we studied otherwise normal individuals who consumed diets adequate in all known dietary requirements except the B complex. We have observed these people over periods varying from 3 months to one year. In such experiments we have seen develop what we believe to be a characteristic syndrome, namely, that of mild B complex deficiency, the sort of thing you might expect to encounter in practice.

I will not describe these manifestations in detail, but I should like to list briefly the major manifestations which we consider characteristic of this mild deficiency.

There occurs, first of all, loss of weight; next, edema. The earliest symptoms are easy fatigue and anorexia. As the deficiency progresses, gastro-intestinal symptoms appear, chief among them being heart burn, a sense of fullness in the epigastric region, diarrhea, or constipation. These are accompanied by characteristic roentgen changes chiefly in the stomach and small intestine. We have observed also what we believe to be characteristic cardiovascular disturbance, dyspnea on exertion, precordial pain, and increase in the pulse rate, but we have never been able to find a significant alteration in resting blood pressure, nor in the electrocardiogram or orthodiagram.

We have seen the more local manifestations which Dr. Blankenhorn has described to you in detail, also the mental symptoms which he described, and they are very striking; namely, mental depression, apprehension, fearfulness, as well as impaired memory and inability to carry through a logical train of thought.

We have seen also a mild macrocytic type of anemia which does not respond to thiamin or riboflavin but does respond to brewers' yeast.

Even from this brief summary it is apparent that no single clinical sign is pathognomonic of this deficiency. Likewise, there is no precise clinical test which may be applied to make the diagnosis. Reports are now appearing in the literature of studies of urinary excretion of thiamin and other B factors. We have been working on this problem, and I think we may

say that clinical tests of this type are far in the future, partly because of the complexity of the chemical methods now available, and because many as yet little understood factors influence the rate of excretion of these substances.

The clinician, therefore, must make the diagnosis, and in the present state of enthusiasm for vitamin therapy and in the absence of more specific criteria for arriving at a diagnosis it is often a difficult matter to reach a sound decision.

The tremendous enthusiasm for vitamin therapy has arisen largely since the advent of the new synthetic preparations—nicotinic acid, thiamin, and riboflavin. It is therefore important to analyze their place in the problem of human B deficiency.

(Slide) In the past year, 1939-1940, published reports claimed the efficacy of one or another of the B factors in 52 separate clinical entities. Is this reasonable? I think it is too early to answer dogmatically. From what is known of the physiologic functions of these factors, it is reasonable to expect that the effects of deficiency may be widespread. Furthermore, they are going to complicate other disease entities frequently. As to the exact validity of many of the claims which are being made, I think no one can give a definite answer. As a person who has endeavored to study the phenomena under controlled conditions, I know, however, that it is very easy to obtain false positive results.

Many claims are made for the effectiveness of thiamin alone, and riboflavin alone, as well as others of the B complex. Certainly it has occurred to you to wonder how often you are going to encounter separate deficiencies of these different B factors.

(Slide) This question is most easily answered by a perusal of the available data dealing with the concentration of B factors in different foods. Complete data of this type are comparatively scarce at the present time due to the fact that the chemical methods are difficult to apply to food assay.

If, however, you will review the figures which I have gathered together, you will see that it is difficult and practically impossible to find a food which supplies adequate amounts of all members of the B complex, except one. In other words, it is practically impossible to select a diet which will produce a separate deficiency of one or another of these factors.

For this reason, I think the spontaneous occurrence of separate deficiencies will be rare. It seems to me, also, that the terms which are used frequently, such as "thiamin deficiency," "riboflavin deficiency," and others are misleading, and

lead to false hope of therapeutic success with these factors.

If, then, most clinical deficiencies are of the B complex, what effect will treatment with the separate synthetic preparations produce?

(Slide) Here is shown the weight curve of an individual maintained on a diet deficient only in the B complex. When the weight began to decline, a source of vitamin B₁ was administered. This was in the days before thiamin had been isolated. Her weight shows a temporary rise. The dose of B₁ was then trebled. In spite of this, the weight began to decline. Then we added a source of the B₂ complex, and again a temporary increase in weight occurred. The dose of the B₂ complex was trebled, without significant effect. It was not until the subject received brewers' yeast that the weight returned to normal and was maintained.

(Slide) Here is shown the same phenomenon in a person studied at the Philadelphia General Hospital last year. Thiamin administered in a dose of 15 milligrams daily produced only a temporary effect upon the declining weight, which is characteristic of B complex deficiency. The dose of thiamin was trebled with no significant alteration in the weight curve. Riboflavin was added, with only a temporary increase in weight.

Here, then, is demonstrated the temporary effect produced by thiamin and riboflavin on the weight loss in B complex deficiency.

(Slide) Here is shown the incomplete effect of thiamin, riboflavin, and nicotinic acid together on the characteristic manifestations of B complex deficiency. These 3 factors relieved only slightly more than one-quarter of what we consider to be the typical manifestations of this deficiency. Brewers' yeast was required for the rest.

Temporary Benefits

In our experience, then, the use of thiamin, riboflavin, and nicotinic acid in the treatment of B complex deficiency has resulted in only temporary and incomplete benefit. There is a further point which should be mentioned here. Recent investigations are beginning to disclose the fact that the functions of these separate factors are profoundly interrelated, and it is not yet clear just what the effect may be of increasing the concentration of one at the expense of another. In our own experience, we observed a subject maintained on a B complex deficient diet who obtained no response from 2.5 units of insulin while taking the diet alone, who became moderately sensitive to the same dose when

given thiamin, and who obtained a severe reaction when thiamin and riboflavin were given together in the absence of the other factors. Further, there are some communications now which show that the rate of thiamin excretion in the urine is greatly increased by the administration of riboflavin, as though riboflavin caused mobilization of thiamin from the tissues. It is conceivable, then, that we will run into new and perhaps not altogether desirable clinical situations as a result of using the new separate synthetic preparations to the exclusion of other as yet unrecognized members of the B complex.

Because of the availability of thiamin and nicotinic acid and riboflavin, many people are using massive doses on the theory that if a little is good, more is going to be much better. I should like to point out that there is at the moment no physiologic justification for the use of these large doses. Peters in his early work found that the oxygen uptake from the brains of animals deficient in thiamin was reduced, and that when he gave enough thiamin just to relieve the deficiency, the uptake of oxygen returned to normal. Increasing it over and above this level produced no additional effect. Likewise, adding thiamin to normal brain tissue had no effect upon the rate of oxygen uptake. I have already shown you the negative effect on the weight curve of increasing or trebling the dose of thiamin in an individual already saturated with that substance.

Finally, L. J. Harris, in Cambridge, England, has recently shown that the saturation level in rats for thiamin is approximately 10 times above the requirement level, so that in man, if the requirement level for thiamin is approximately 3 milligrams, multiplied by 10 one arrives at a figure of 30 milligrams for the theoretic saturation level. One can therefore readily see what is happening to even the moderately large doses of 100 milligrams which are now being recommended.

As to the **route of administration**, I personally have not seen parenteral therapy succeed where adequate oral therapy failed. I also know of no experimental evidence to show that either thiamin, riboflavin, or nicotinic acid is more effective given parenterally. Furthermore, I think it should be known that in animals a lethal dose of thiamin can be reached when the substance is given intravenously, whereas it is essentially nontoxic given orally or subcutaneously. A toxic dose for man would be in the neighborhood of 12 grams, a figure fortunately not yet recommended by even the most enthusiastic.

However, it seems to me that unless there is

urgent indication for the use of these vitamins parenterally, as for example in the pernicious vomiting of pregnancy or other such emergencies, I do not believe that in the present state of our knowledge the uncritical use of them by this route is justified.

I do not wish to give the impression that there is no rational use for synthetic preparations. They are very helpful, as for example in the case of patients suffering from early deficiency in whom anorexia has caused reduction of food intake without there being as yet pronounced gastro-intestinal complaint. In such persons it is conceivable that by the administration of thiamin there can be a sufficient return of appetite so that the patient can be persuaded to return quickly to a normal diet.

Likewise, where there is evidence of predominant deficiency of one factor or another, pure preparations may quickly relieve the presenting complaint and a complete source of the B complex may then be substituted to effect a return to normal.

In children, because of their high requirement for vitamins, only a moderate decrease of the diet renders that diet borderline, and it is therefore reasonable to use the synthetic preparations, partly because of their ease of administration, partly because of their small bulk, and in the hope that their use may bring about a prompt return to a normal dietary regimen.

Vitamin A Deficiency

P. Robb McDonald, M.D., Philadelphia, Pa.

Within the past decade our knowledge of the vitamins has increased tremendously. We now have some clues as to their chemical nature and physiologic function and are fairly familiar with many of the clinical manifestations of their deficiencies. It is my purpose to deal briefly with vitamin A, which was one of the first of the vitamins to be discovered.

Vitamin A is a conjugated protein and is a derivative of the carotenoid pigments from plants. Thus the vitamin A content of our diet comes directly or indirectly from the plant kingdom. The carotenoid substances (alpha, beta, and gamma carotene and cryptoxanthin) supply probably the greatest amount; carotene is frequently referred to as provitamin A. As far as we know, animals and humans are unable to synthesize either carotene or vitamin A in their bodies but must depend rather on exogenous sources for their supply. There are definite physical and chemical differences between vitamin A and carotene and it is now thought that

carotene breaks down in the body to form 2 molecules of vitamin A. In the human body the liver is the main organ concerned with the transformation of carotene into vitamin A. George Wald, however, has recently reported that the pigment epithelium of the retina may play an important rôle in the transformation of carotene into vitamin A for the needs of the visual process. Vitamin A and carotene are both absorbed in the small intestine, and their absorption is dependent on a normal fat metabolism. Disturbances of fat metabolism may give rise to signs or symptoms of vitamin A deficiency even in the presence of an adequate intake.

The principal dietary sources of carotene are the green vegetables, lettuce, spinach, etc. The carotene content follows the chlorophyll content quite closely. Tomatoes, peppers, and fruits which were once green but have ripened also contain appreciable sources of carotene. The next most important source of carotene and vitamin A is milk and its products and eggs. The presence of vitamin A as such is due to the conversion of carotene into vitamin A in the animal; the amount depends on the available carotene in the animal's food and may show considerable seasonal variation. The principal animal tissue supplying vitamin A is liver, as it contains the body stores. Canning, rapid freezing, and boiling fortunately do not destroy the carotene or vitamin A content of the foods.

The clinical manifestations of a severe vitamin A deficiency are subjective night blindness and objective pathologic changes in certain epithelial tissues. The latter consist of atrophy of the epithelial cells, reparative proliferation of the basal cells, and differentiation of the new product into a keratinized, stratified squamous epithelium. These changes are found most commonly in the eyes, respiratory tract, skin, and genito-urinary tract, as well as in the ducts of many glands. The central nervous system in humans is apparently unaffected.

The ocular signs, which are known as keratomalacia and xerophthalmia, consist of a drying and metaplasia of the epithelium of the cornea and conjunctiva, which if long continued may lead to irreparable damage and loss of vision. These pathologic changes are associated with night blindness, but are not the cause of it. The rôle of vitamin A in the visual cycle will be discussed subsequently. The cutaneous manifestations of this deficiency are analogous in their pathologic nature with those occurring in other epithelial structures. The skin becomes dry and rough with papular eruptions caused by hyperkeratosis of the hair follicles. Sebaceous

glands atrophy and undergo keratinizing metaplasia. The papular eruption appears on the anterolateral aspect of the thighs, posterolateral aspect of the upper forearms, and extensor surface of the arms and legs. There is also a generalized increase in the pigmentation of the skin and conjunctiva.

The respiratory and genito-urinary complications are due to the same pathologic process and have been frequently observed in young infants. In rats, fed on a vitamin A deficient diet, renal calculi are frequently formed and there have been several reports of human urinary lithiasis being associated with this deficiency. The gross pathologic features in man and in animals are thus the outcome of the accumulation of keratinized epithelial cells in glands and in their ducts as well as in the skin.

That nutritional deficiencies may cause night blindness has been known for many centuries; Hippocrates recommended liver and the Chinese certain green herbs as a cure for this disorder. However, it has been only within the past decade that the rationale of this therapy has been shown to be due to their high vitamin A content. Dark adaptation is the well-known phenomenon of visual adaptation that takes place when one enters a dark room on a bright sunny day. Bright light bleaches the visual purple contained in the rods of the retina, and one's ability to adapt to dim light depends on the amount and rate of regeneration of visual purple. The earliest symptom of night blindness is, therefore, poor dark adaptation. It must not be forgotten that there are certain congenital forms of night blindness caused by local changes in the retina; these have no relation to vitamin A deficiency.

The rôle of vitamin A in the visual cycle has gradually been evolved in the past few years. As mentioned before, it was found that vitamin A cured certain forms of night blindness. Then the regeneration of visual purple in vitro was found to be delayed in retinas obtained from animals on a vitamin A deficient diet. Later it was found that vitamin A deficiency could be cured in experimental animals by feeding them whole retina. Finally, vitamin A was found in especially prepared extracts of the retina itself. The following scheme of Wald is now generally accepted as representing the basic physiologic chemistry of dark adaptation, and from it one can readily see the rôle of vitamin A in the regeneration of visual purple:

	Light			
	Visual purple			
Vitamin A	Protein	Retinene	Protein	

Until the past few years, however, the measurement of dark adaptation was relegated to the research laboratories for those interested in the problems of visual physiology. With the realization that vitamin A played an integral rôle in the visual cycle, interest in this commonplace phenomenon has been awakened. The quantitative measurement of dark adaptation as a diagnostic test of early vitamin A deficiency has been widely accepted, too hastily, I am afraid, in many instances.

There are now several instruments on the market for the measurement of dark adaptation; most of them claim to be simple in operation and rapid and accurate in the diagnosis of sub-clinical vitamin A deficiency. The general principle of the test is, first, to expose the patient's eye to a bright light which bleaches the visual purple, and then during a fixed period of dark adaptation to determine the minimum light that the patient can just see or to ascertain the time he takes to see a light of a fixed low intensity. It is not my purpose to discuss the relative merits of the different instruments now available, but in my hands, using an instrument that fulfills the physiologic requirements as nearly as possible, the measurement of dark adaptation has not proved to be a reliable test of vitamin A deficiency in what might be considered borderline cases. Inability to see well at night and susceptibility to glare, especially that of headlights, has frequently been thought to be caused by vitamin A deficiency. In examining patients with these complaints I have not been able to demonstrate poor dark adaptation except in those with pathologic changes in the retina. To interpret the findings in routine dark adaptation tests, one should have a thorough knowledge of the physiology and pathology of the eye in order to avoid what one might call "false positive" tests.

Within the past year or so several methods for determining the vitamin A and carotene content of the blood have been developed. This can be done by means of a photo-electric colorimeter or spectrographically. It is not, however, as yet a generally accepted test for vitamin A deficiency. Several of the reports have failed to state whether or not fasting blood was used, and there has been little standardization of the methods employed. Further, there is scarcely any evidence as to whether or not the vitamin A in the blood is an index of the body stores. G. Steininger and his associates, in a well-controlled experiment, showed that the amount of vitamin A in fasting blood is dependent on the amount in the diet and that there is no correla-

tion between the amount of vitamin A ingested and the biophotometer readings. I have not had any experience with the determination of vitamin A in the blood, but feel certain that a convenient, direct, and objective method will replace the less reliable and subjective method of measuring dark adaptation as a test of vitamin A deficiency.

Patients with advanced avitaminosis A are rarely seen in this country. The papular eruption and the ocular complications of drying and softening of the cornea respond promptly to specific treatment. There are, however, certain diseases that may have an associated vitamin A deficiency even in the presence of an adequate diet. Patients suffering from diseases of the liver, especially cirrhosis, are frequently found to be deficient in vitamin A, because of the poor conversion of carotene into vitamin A and interference with the body stores. These patients have been found to require extremely large doses of vitamin A—50,000 to 100,000 units a day—and recovery is very slow, though the maintenance dose need not be as large. In children, congenital obliteration of the bile ducts, fibrosis of the pancreas, celiac disease, and cretinism frequently have an associated vitamin A deficiency. An important point to remember is that carotene is extremely soluble in liquid petrolatum and therefore in combination with it is poorly absorbed. Vitamin A is not nearly as soluble, so should be given with liquid petrolatum if the latter is required.

There are several other diseases which are considered by some to have an associated vitamin A deficiency. That vitamin A deficiency can cause urinary lithiasis in experimental animals is a well-accepted fact, but that it may be a cause of stone in humans is still a debatable point. Some observers have noted vitamin A deficiency, based on the dark adaptation test, in persons with urinary lithiasis, but attempts to reduce the incidence of stone in chronic stone-formers have been unsuccessful. There have also been reports of vitamin A deficiency occurring in hyperthyroidism and it seems reasonable to assume that vitamin A would be more rapidly destroyed when the metabolic rate is increased from any cause. There have been several reports in the German literature of marked improvement of adolescent goiter and mild hyperthyroidism with vitamin A, but that has not been confirmed in this country.

Vitamin A was at first considered to have marked anti-infective properties, and was administered orally and locally for all types of infections. It is known now that severe defi-

ciencies tend to lower the resistance to infection, and that a moderate deficiency may prolong the course of respiratory infections in man, but there is little justification for calling vitamin A the "anti-infective vitamin." The local use of vitamin A in superficial infections is of very questionable value.

The average daily requirement for adults is 2000 to 3000 international units, and a diet containing 500 c.c. of milk, one egg, 25 Gm. of butter, and one serving of greens is quite enough to meet the above requirements. In pregnancy or illness at least 5000 units should be supplied and 6000 to 8000 units should be ample for a growing child. There are many vitamin A preparations on the market now and those from any reputable drug house should be quite satisfactory. I have found that preparations containing both vitamin A and D, if prescribed in large doses, cause an annoying feeling of fullness and that unless vitamin D is indicated it is better to prescribe vitamin A alone. One can now obtain concentrates containing anywhere from 5000 to 50,000 units per capsule. Unless the body stores are greatly depleted, or there is a marked deficiency, it should seldom be necessary to prescribe more than 10,000 units a day.

The incidence of vitamin A deficiency varies no doubt with the socio-economic status of the patients, their geographic distribution, and the enthusiasm of the reporter. Like most of the vitamins, vitamin A has also been exploited and has been recommended for everything from sterility in the male to cancer. It is to be hoped that its therapeutic value will be enhanced by a more thorough knowledge of its rôle in human metabolism, and that it will not be prescribed in shotgun mixtures as many of the vitamin products are.

Vitamin C in Clinical Practice

George J. Kastlin, M.D., Pittsburgh, Pa.

The isolation of ascorbic acid and its identification as vitamin C in 1932 resulted in the development of chemical methods of measurement which were usable in clinical investigations. A better knowledge of the body requirement and of the distribution of the vitamin in body tissues has been made possible by direct macro and micro methods of analysis.

Vitamin C is apparently necessary for the normal functioning of all cells of the body. It is held in the tissues in a form that is readily oxidized, but the functions of the vitamin in a chemical sense have not been adequately determined. Apparently it regulates the origin and

colloidal state of certain intercellular substances, even though the detailed explanations suggested by Wolbach and associates may need to be revised in accordance with the recent suggestion of McHenry. It plays an important part in the formation of collagen of fibrous tissues and of nonepithelial tissues such as the endothelial lining of the blood vessels and dentine of the teeth. It has been shown clearly that a high intake of the vitamin aids experimental animals in resisting the injury of bacterial toxins and certain other toxic chemicals, but these reactions should be interpreted on a physiologic or nutritional basis rather than on the basis of direct neutralization. The growing teeth are particularly sensitive to moderately low levels of vitamin C intake and injury from bacterial toxins, as shown recently by King, Musulin, and Swanson.

Replenishment Essential

The human organism, like the guinea pig, is peculiar in that it cannot synthesize ascorbic acid. Neither can the body store vitamin C through long periods. Hence, a constant replenishment from foods containing the vitamin must be maintained. These foods are primarily the fresh fruits and fruit juices, fresh vegetables, mothers' milk, and fresh animal foods.

Certain fundamental factors influence vitamin C requirement and utilization by the body. Among these factors are:

1. Decreased intake of ascorbic acid. The food may be basically deficient in vitamin content or the vitamin may have been destroyed during storage, drying, or cooking of the food. Modern canning processes may preserve the vitamin quite satisfactorily.
2. Increased physiologic requirement. During gestation and lactation there is an increased requirement of 50 to 100 per cent above normal.
3. Increased pathologic requirement. Infections and toxic conditions may increase the metabolic requirement.
4. Faulty absorption. Low gastric acidity and delayed assimilation may permit loss of vitamin by oxidation after ingestion. Decreased intestinal absorption may subject the vitamin to destructive bacterial action.
5. Administration of drugs such as sulfanilamide or its derivatives, salicylates, and other drugs may cause an increased requirement.
6. Age. There is reason to believe that the relative requirement per unit of body weight is greater in infancy and youth.
7. Idiosyncrasy. Peculiar cases are found that do not respond normally under known conditions of diet or vitamin therapy.

The typical clinical manifestations of vitamin C deficiency are the symptoms of scurvy (they may occur at any age)—spongy, edematous, bleeding gums, easy bruising of the skin, petechial purpuric hemorrhages of the mucous membranes and skin, subcutaneous hemorrhages, bleeding into the joint spaces and serous sacs, pain in the legs, weakness, progressive anemia, dizziness, and nausea.

The normal daily requirement of vitamin C for the prevention of scurvy has been estimated to be from 10 to 25 mg. A reasonable minimal standard for health in normal children and adults is 100 mg. daily. This amount will normally maintain an approximate saturation of body tissues. Breast-fed infants receive from 50 to 100 mg. per day, the amount which should be given formula-fed infants as supplementary to their diet. Mothers should be provided with approximately 200 mg. per day during lactation.

Vitamin C deficiency or depletion even of severe grade does not necessarily produce the typical picture of scurvy, for certain of the typical symptoms may be lacking. It is also well known that the development of mucous membrane bleeding and cutaneous purpura occurs in conditions other than scurvy. Hence, a positive tourniquet test does not provide reliable evidence of vitamin C deficiency.

An accurate history of dietary intake of vitamins is difficult to obtain. The extreme instability of vitamin C in most foodstuffs may readily lead to deficiencies on dietary régimes that on paper appear to be adequate. The empiric use of ascorbic acid as a therapeutic test may thus fail in an apparent case of scurvy and remain unused or untried in an unrecognized case of preclinical scurvy or chronic vitamin C deficiency. The problem of identifying true vitamin C deficiency in patients who may or may not show the true symptoms of scurvy lies in using the chemical tests to determine the amount of ascorbic acid in the blood plasma and the amount excreted in the urine.

The degree of tissue saturation of ascorbic acid is reflected within certain limits in the blood concentration of the vitamin if the tissue balance is stable. A desirable blood level is 1.0 to 2.0 mg. per cent, while values above 0.7 mg. per cent are well above the scurvy level.

The normal daily urinary excretion ranges from 15 to 50 mg., although no definite standard is available. A reasonably definite relationship exists between the blood level and urinary excretion, however, especially if the intake has been sufficient and a steady balance is maintained.

A depletion of the vitamin C body stores with resultant decrease in the blood concentration to a range of 0.7 to 0.4 mg. per cent may be considered to represent a state of mild deficiency. Blood levels below 0.4 mg. per cent are preliminary evidence of severe deficiency. There is accompanying but irregular decrease in urinary excretion with the fall in the blood values.

Although blood levels below 0.4 mg. per cent constitute the zone in which scurvy develops, such low blood values, particularly in adults, are not necessarily associated with clinical evidence of scurvy. The chemical tests will detect a deficiency which has been present only a short time compared to the time required to develop tissue changes that are recognizable clinically. Transient variations in the vitamin intake may therefore be reflected in the blood level, so that the blood level does not necessarily reveal information in a strictly quantitative sense regarding saturation of body tissues. Single determinations of blood level or urinary excretion are of relatively little value, except in very high or very low values.

The degree of tissue saturation can be determined by a direct saturation test. It is our belief that the saturation test should be based on the response of both the blood level and urinary excretion to a single large intravenous dose of ascorbic acid. To determine the state of vitamin C nutrition, the chemical data should be considered in association with the clinical condition of the patient.

A Common Error

There has been a flood of conflicting reports in the literature indicating the value of vitamin C for the correction or cure of innumerable pathologic conditions. Many of these observations were based on uncontrolled acceptance of a standard for deficiency, and in many reports adequate controls with nontreated cases had not been provided. One of the most common errors has been to accept the blood level as a guide of deficiency. We must establish in such investigations that what is declared to be vitamin C deficiency actually is such a deficiency, and not an interrelation with other factors. The accessory effect of other soluble vitamins, minerals, or hormones is not clearly understood, and may be of great importance.

The greatest difficulty is found in evaluation of borderline deficiency. The tissues of growing children are more sensitive to injury from borderline undernutrition than adult tissues. There is an obvious need to maintain a good state of vitamin nutrition to avoid the damage

of deficiency which may be irreparable. There is experimental evidence that in borderline deficiency states the added effect of certain bacteria or toxins may produce marked injury to growing tissues that would be protected at a higher nutritional level.

The total quantity of vitamin C required to saturate the adult body is in the range of 3 to 5 grams. In depletion, saturation may be restored either by a diet high in the vitamin or by synthetic ascorbic acid given orally or by injection.

Oral dosage is effective if the gastric acidity is adequate and the patient's condition has not affected the gastro-intestinal absorption. Intravenous administration insures absorption. Massive doses up to 1000 mg. per dose are tolerated without reaction or toxic effect, other than the possible influence of the acid radical of the preparation on the acid-base balance of the blood.

The total dosage required to correct depletion depends on the amount of the vitamin necessary to restore tissue saturation. This necessary replenishment should be made rapidly by adequate daily dosage. Depleted tissues will absorb large repeated doses of from 200 to 1000 mg. until tissue saturation has been reached. The chemical saturation test affords an accurate means of determining the dosage requirement and the speed of recovery to normal saturation.

DR. FRANK R. STARKEY (Philadelphia): I should like to ask Dr. Kastlin what are the chief sources of vitamin C.

DR. KASTLIN: Fresh fruits and fruit juices and fresh dairy products. It is commonly believed that milk is a rich source; mothers' milk is. It is approximately 5 times richer in vitamin C than is our commercial cows' milk, the reason being that in processing and pasteurization there is rapid loss. Citrous fruit juices are a good source.

In a recent editorial in the *Journal of the American Medical Association*, we find that cabbage and strawberries and any of the fresh fruits are good sources (and by "fresh fruits" I mean fruits that are eaten shortly after they are picked). Any food, either vegetable or fruit, which is old by the time it is consumed has lost a proportionate amount of vitamin C. Thus our whole group of fresh vegetables, fresh fruits, and animal foods are normal good sources.

Phlyctenular Disease and Vitamin A Deficiency

Leonard G. Redding, M.D., Scranton, Pa.

One of the most interesting happenings in the medical life of every generation is the rise and disappearance of certain diseases. There is one condition that has disappeared in America in the lifetime of the youngest person in this room. That condition is phlyctenular disease. This was formerly the most frequent diseased condi-

tion of the eyes seen in hospital and private practice. It affects either the conjunctiva or cornea alone or in both locations at the same time. It ranges in severity from a slight redness of the conjunctiva to an ulcer or, as the name suggests, a blister. This is called conjunctivitis. When the cornea is involved it ranges from a slight irritation of the corneoscleral junction to a deep ulcer; it is then called keratitis. This condition has been called conjunctivitis eczematosa, and again scrofula. Since time immemorial it was considered to be due to tuberculosis, or to some mystic miasma from the *Bacillus tuberculosis*. Lately this "miasma" has been called allergy.

The condition is essentially one of childhood. It occurs most frequently between the ages of 2 and 10. If not properly treated early, it becomes very resistant to treatment and requires months to relieve. Even after an apparent cure, relapses are very frequent. Until a few years ago every children's ward had 2 or 3 of these unfortunate youngsters nearly all the time. They presented a typical picture and could be easily diagnosed across the room. They suffered from photophobia from iritis, caused by the ulcer, which in turn caused blepharospasm, and one could not examine the cornea except by the use of lid retractors. All this tended to create a vicious cycle and made recovery all the more difficult. After every epidemic of measles dozens of cases were seen in every community, and as a rule the more severe the infection in each particular epidemic, the more severe the eye condition. This type was the one usually called eczematous because of the patches of eczema on the face and body and the cracking of the angles of the nose and of the lips. The patients usually had sniffles and running ears as well.

The other distinct type, on account of its external appearance, received the term scrofula. The glands of the face and the neck were swollen and sometimes broke down. The tuberculin test was often positive, as it was in many of the apparently healthy children. Some author called it tuberculosis and it has been so called in the textbooks up to today.

In personal communications from Dr. Edith MacBride-Dexter, ex-Secretary of Health of Pennsylvania, and the present Deputy Secretary of Health, Dr. Alexander H. Stewart, both stated, after careful investigation, that in the past 10 years there has not been a single case of phlyctenular disease among the children at any of the state tuberculosis sanatoria. Certainly, if tuberculosis is a factor, some cases would have shown up in that length of time.

Some years ago I noticed that the number of cases of phlyctenular disease in my office and hospital practice had diminished. After discussion with a number of my colleagues, they said that the same thing was true in their practices. I then began to gather statistics from many United States hospitals and as many as I could obtain from Europe. After compiling graphs from all these, it was apparent that in all the United States hospitals there was a sharp drop in the number of cases, and in all of them the year in which this drop appeared was about the same.

The European Contrast

In studying the European graphs, the result was just the opposite; instead of a drop there was almost a continuous rise.

The only possible cause for this result in the whole United States at the same time seemed to me to be that of feeding. A letter to one of the largest chain stores received the following answer:

"Upon receipt of your letter, I endeavored to develop the information which would answer your question, namely, the approximate year when green and fresh fruits and vegetables became important in the consumer's diet the year around, that is, when they were being handled in considerable volume in the principal markets of the country.

"To confine the answer to one specific year, I would say 1923. A marked jump in tonnage of the commodities which were formerly seasonal but became somewhat nonseasonal, due to production in semitropical climates, occurred during the period from 1922 to 1924 inclusive.

"It may be interesting to note that during the period from 1918 to 1922 the increase in consumption was quite marked in such commodities as spinach, lettuce, tomatoes, and celery. Despite the increase during this period, the consumption through the cold weather months was limited to a comparatively small part of the population. It was at the beginning of 1923 that the volume began to attain large proportions; about this time or a year later the chain stores began adding these commodities in a big way and introducing them at prices appealing to consumers, who began to buy and consume these products on a larger scale than at any previous time."

The one thing that these foods contain in the greatest abundance is vitamin A.

It was also at about this time that the use of cod liver oil in the diet in childhood was almost universal. Improved refrigeration was now

being used for year-round shipping of fresh fruits and vegetables and the poorest family is able to afford what were once Lucullan luxuries.

While all this was true in the United States, it was not so in Europe. They did not make use of refrigeration to any great extent and the poor were becoming continually poorer and had only the bare necessities of life.

Then a study and comparison of the clinical picture, both macroscopic and microscopic, between humans with phlyctenular disease and rats fed on a vitamin A free diet was made. The results were published in a previous paper and I will not take the time to repeat them here. In brief, it was rather conclusively shown that the 2 conditions are almost identical.

After arriving at this concept, I started at once to treat all these cases with large doses of cod liver oil; in all I had 15 cases in 6 months. In every case they started to improve in a few days and all of them had completely recovered in 10 days. There was only one recurrence and that was in a patient who refused to continue the treatments. After hospitalization for a week, his condition cleared up and he has had no recurrence since.

For the past 3 years I have seen only 3 cases—one the child of a physician, one of a banker, and one of a lawyer. These were all children with "picky eating" habits. After a change of diet, their conditions cleared up promptly.

So we see that in the United States during the past decade, in spite of the worst depression the world has ever known, the most prevalent eye disease has disappeared. This has been due to better feeding habits alone. And who can say, if the same feeding habits had been followed in Europe, that some of the insanity now being demonstrated might not have been avoided?

Vitamin D

Milton Rapaport, M.D., Philadelphia, Pa.

Vitamin D exists in many different forms. Eleven chemically related compounds, all sterols, which have antirachitic activity, have been described. In fact, cod liver oil is said to contain 6 different compounds with vitamin D activity. The 2 important compounds are:

7-Dehydro Cholesterol.—This is the substance which gives cod liver oil and possibly many of the other fish oils their activity. It is the compound formed when milk is irradiated or when the skin is irradiated. It has been termed the vitamin D of animal origin.

Activated Ergosterol.—This is formed by the irradiation of ergosterol by ultraviolet light, or

by bombardment with low velocity electrons. It is the active ingredient of the commercial viosterol preparations. Since ergosterol is obtained from plants, the activated form has been termed the vitamin D of plant origin.

While the different forms of vitamin D are known to have different quantitative activities, qualitatively they all have the same action in the body. Vitamin D maintains the calcium and phosphorus concentrations of the body fluids at levels which promote calcification of bone. It does this chiefly by increasing the absorption of calcium and phosphorus from the intestinal tract, and recent evidence would indicate that it also acts upon the renal tubules to regulate phosphate reabsorption.

In the absence of vitamin D, bone continues to grow but fails to become calcified. The overgrowth of uncalcified bone (osteoid) is apparent in the growing child, as the rosary or widened wrist and ankle epiphyses of rickets. The weakness of this uncalcified bone is the basis for the deformities which the rickety child develops. In the adult, bone growth in length has ceased, so that the deficiency of vitamin D expresses itself somewhat differently. The adult bone is not inert or static; its calcium stores are constantly being withdrawn and replaced, and the normal adult bone may be considered the resultant of the equilibrium of these 2 processes. In the absence of vitamin D, withdrawal of calcium in the adult bone continues, but replacement ceases, and the fragile bones of osteomalacia result.

Vitamin D should be introduced into the dietary throughout the entire life span, for there are almost no natural foodstuffs which provide adequate amounts of this substance in the quantities of food ordinarily taken in the American dietary. Some of the commoner preparations available for the administration of vitamin D are the following:

Viosterol in Oil—contains 10,000 units of vitamin D per gram.

Viosterol in Propylene Glycol (Drisdol)—10,000 units per gram. Is water-soluble.

Cod Liver Oil—contains 85 to 100 units of vitamin D and 600 of A per gram.

Percomorph Oils—blended to contain 10,000 units of vitamin D and 60,000 of A.

Irradiated Cholesterol (Delsterol)—contains 10,000 units of vitamin D per gram.

Halibut Liver Oil—fortified with viosterol.

Vitamin D Milks—Fortified—400 units per quart.

Irradiated—135 units per quart.

The multiplicity of vitamin D-containing preparations makes it somewhat difficult to recommend fixed dosages in terms of units which will be applicable to all preparations, for the activity or availability of the vitamin seems to vary with the menstruum containing it.

In the normal full-term infant vitamin D administration should be initiated at the third week of life, at a level of 200 units daily ($\frac{1}{2}$ teaspoon of cod liver oil or 2 drops of concentrate). This should be rapidly increased so that in 3 to 4 weeks the infant is receiving 800 units daily (2 teaspoonfuls of cod liver oil or 5 drops of concentrate). In our experience we have found it safer to give somewhat larger doses of the concentrates (10 to 15 drops daily). This level of dosage is continued throughout the first 2 years of life. After this it may be dropped to 400 units daily and continued at this level throughout life. This amount is purely arbitrary since the vitamin D requirements of childhood and adult life have not been quantitated. There are circumstances in which the vitamin should be supplied in larger amounts than those recommended herein:

1. Prematurity. It is our practice to start vitamin D on the fifth day of life, since the premature infant is extremely susceptible to rickets. We have preferred the water-soluble viosterol in propylene glycol (Drisdol), starting with 5 drops dissolved in the daily formula. As soon as the infant is nursing vigorously, we change over to one of the oily concentrates, giving 15 to 30 drops daily in divided doses, so as to introduce vitamin A into the dietary.

2. Patients who are unable to obtain exposure to sunlight, e. g., invalids, night workers, or factory workers.

3. Pregnant women.

4. Patients with fractures.

In instances where there is poor absorption of fat, e. g., obstruction of the bile ducts, celiac disease, obstructive jaundice, etc., we have employed the water-soluble Drisdol or ultraviolet irradiation because of the poor absorption of the vitamin in an oily menstruum.

For the cure of rickets already present, 1000 to 5000 units daily will bring most cases under control in 3 to 4 weeks.

Before closing, I should like to say something about vitamin D-containing milks. I believe these have done a great service in eradicating the marked rickets which were formerly so frequently seen. Our experience has been almost entirely with the irradiated milks containing but 135 units per quart. While it is the feeling of many that this number of units per quart is

inadequate for optimal calcification, still it has prevented clinical rickets. And in groups of patients where it is difficult or impossible to have the mothers feed supplements of vitamin D, this milk has been of untold value because it has prevented rickets.

Vitamin E

Carl E. Ervin, M.D., Harrisburg, Pa.

For a number of years, after Sure and Evans in 1923 published their experimental work, vitamin E was considered to concern reproduction only, but during the past few years it has been shown that deficiency will cause abnormality of the cross-striated musculature of the human body and also of the central nervous system.

Chemistry and Origin.—This fat-soluble vitamin is found most abundantly in wheat germ oil, raw peanuts, whole grain cereals, coconuts, cotton seed, palm, linseed, and soja oils, in lard, butter, and milk, and also in water cress, green lettuce, and green vegetables. It can be produced synthetically in the form of alphanatocopherol. H. M. Evans and his co-workers have shown that wheat germ oil contains alpha and beta tocopherols and that the alpha probably has to do with muscular atrophy. This vitamin is very resistant to heat (200°), alkalis, and acids. It breaks down if the oil containing it becomes rancid or if exposed to colloidal forms of heavy metals (Waddell-Steenbock).

Requirements in Man.—Definite information as to the requirements in man is lacking. At the present we must depend upon certain leads to be detailed later. Better information is available concerning experimental animals, especially rats and mice. A tendency to abortion in cattle, sheep, and swine may be corrected by vitamin E concentrates. According to Hill and Burdett, the larva of the honey bee develops into a queen only when it receives vitamin E.

Symptoms of Avitaminosis E.—In experimental animals it is known that the symptoms differ in the 2 sexes. In the male, histologic changes occur in the testes and seminal tubes early in the deficiency and become irreparable, causing permanent sterility if not corrected in time. Azoospermia is the first occurrence to be followed by atrophy in the seminal tubes. The female deficient in vitamin E remains conceptive, and may have a litter which she refuses to raise. Further deficiency results in stillbirths or may be intra-uterine resorption of the fetus and placenta. In man it has been assumed, on the basis of animal experimentation and clinical observation, that habitual abortion—that is,

after 2 or 3 spontaneous abortions—is due to vitamin E deficiency. The encouraging results are subject to a critical review by S. W. Clausen, speaking for the Council of Pharmacy and Chemistry, in the June 1, 1940, issue of the *Journal of the American Medical Association*. In brief, he concludes that the value of vitamin E in the treatment of menstrual disorders, failure of lactation, and in vaginal pruritis after the menopause cannot be accepted for lack of evidence. This author questions the diagnosis of habitual abortion in many of the reported cases, and calls attention to the great variation in dosage. For these reasons he does not feel justified in crediting vitamin E as a proven aid in the treatment of habitual abortion. He encourages further experimental work with preparations of *known activity*.

The report should not deter physicians from trying vitamin E in patients who have experienced one or more spontaneous abortions which cannot be explained on any other basis. F. Widenbauer reasoned that premature infants might suffer from a deficiency in vitamin E inherited from the mother, and he accordingly treated 17 premature infants with this material and produced a rapid increase in weight after previous arrest of growth in 11 of the 17. Wheat germ oil was used.

One may hesitate to classify neuromuscular diseases as a symptom of vitamin E deficiency. Here we must consider the subject to be strictly in the experimental stages and give any vitamin E therapy for relief of symptoms on that basis. The observations of Evans and Burr on paralysis in young rats born of mothers who had received inadequate amounts of vitamin E during gestation led to clinical trials of this substance. S. Morgulis experimented with rabbits and determined that muscular dystrophy in these animals is a multiple deficiency disease, due probably to vitamin E and some member of the B complex group, perhaps vitamin B₄. When either fraction is removed from the diet, muscular dystrophy develops. Cure can be effected by supplying the missing fractions. The disease can be prevented by supplying both fractions in the basal diet.

Franklin Bicknell reports favorable results in 12 out of 13 patients suffering from a variety of neuromuscular diseases treated with vitamin E for at least 6 weeks. The results are especially encouraging since these patients were suffering from neuromuscular diseases which, until now, have been considered hopeless. He noted improvement in the following conditions: in 2 out of 4 cases of amyotrophic lateral sclerosis (the

2 failures were in patients suffering from advanced bulbar involvement before treatment was instituted), in one case of congenital amyotonia, and in 12 out of 13 cases of muscular dystrophy. Two cases of advanced tabes dorsalis received the treatment without benefit. No ill effects were noted. On the assumption that the anti-sterility factor, alphatocopherol, synthetically produced, is probably not identical with the myotrophic and neurotrophic factors, Bicknell used whole dried wheat germ, 1 oz. daily. As this author remarks, these clinical findings open up new lines of thought and treatment in many diseases.

I. S. Wechsler reported improvement in 2 cases of amyotrophic lateral sclerosis treated with vitamin E. He detailed further experimental work before the American Neurological Association in June, 1940. The second report was perhaps not quite as encouraging as the first. In a personal communication on later treatment Dr. Wechsler stated: "At least 8 cases showed varying degrees of improvement. Of the rest, 2 or 3 may be said to have been arrested, 2 patients died, and several got worse despite intensive treatment. I do not know why some patients should respond and others should not, but I suspect that there is difficulty in absorption and possibly other x factors which I do not know coexist. In a few patients there was evidence of vitamin E privation. The treatment which I have been carrying out is much more extensive than that reported in the original paper."

Simon Stone reported that 5 patients with muscular dystrophy and one patient with muscle atrophy after an attack of multiple neuritis or neuromyeloradiculitis were treated with vitamin E (wheat germ oil). Definite improvement was obtained in all cases with muscular dystrophy, the improvement being manifested in gain in muscle strength, the disappearance of fatigue and muscle pain on slight exertion, change in muscle texture, and displacement of dystrophic musculature by normally contracting muscle tissue. In the cases of muscular atrophy following involvement of the nervous system, an increase in the amount of regeneration of muscle tissue became apparent after the addition of vitamin E (wheat germ oil) to the vitamin B complex the patients were receiving. The addition of vitamin B complex to vitamin E appeared to increase the therapeutic efficaciousness of the latter.

There is need for further clinical investigation of the potentialities of vitamin E in the treatment of muscular atrophies and dystrophies.

T. D. Spies and his associates noted an improvement in neuromuscular symptoms, roaring sensations in the ears, anorexia, and insomnia of selected persons with malnutrition but without clinical evidence of pellagra, beriberi, or riboflavin deficiency.

Wheat germ oil is at the present time the best natural source of vitamin E. It is given different trade names by the various houses. E. R. Squibb & Sons will shortly have available a concentrate of vitamin E which will be more active than a given weight of wheat germ oil and which will be physiologically standardized. Synthetic alphatocopherol will also be available in the near future.

Vitamin K

Thomas E. Machella, M.D., Philadelphia, Pa.

Good sources of vitamin K are the green portions of vegetables and other plants. It is formed in the intestine by the action of bacteria; its absorption depends on the presence of bacteria in the intestinal tract. Following absorption, it is converted by the liver into prothrombin, an essential for the normal clotting of blood. A lowered plasma prothrombin concentration, therefore, reflects some inadequacy in the intake, absorption, or utilization of vitamin K. Such concentration may be estimated by determining the clotting time of plasma or whole blood provided the other constituents, such as calcium, fibrinogen, and thromboplastin, also necessary for the normal clotting of blood, are present in adequate amounts.

According to Quick's method, 70 to 80 per cent of the prothrombin can be lost before the coagulation time is appreciably prolonged. Clinically, serious hemorrhage seldom occurs until its concentration sinks below 20 to 30 per cent of normal.

Though in chicks a prothrombin deficiency may be induced by means of a vitamin K deficient diet, it appears doubtful, because of the ability of the intestinal bacteria to synthesize the vitamin, if in the adult human an inadequate diet alone can result in a lowering of the prothrombin level. In newborn infants, however, a lowered prothrombin level has been attributed by some to a limited intake of vitamin K; other possible factors include the absence of bacteria or bile from the bowel, hypermotility of the intestine, and an inadequate prenatal supply from the mother. In any event the acute hemorrhagic disease of the newborn is associated with a low prothrombin level and can be controlled by the administration of vitamin K.

Faulty absorption of vitamin K from the gastro-intestinal tract may occur as a result of the absence of bile salts from the intestine, as in obstructive jaundice, in the presence of a bile fistula, or after prolonged duodenal aspiration. It may also occur when the area available for intestinal absorption is decreased, as in gastro-colic fistula or other gastro-intestinal short circuits. It may also occur in diarrheal states, as in sprue, chronic ulcerative colitis, and in steatorrhea associated with polyposis, granulomatosis, stenosis, etc. When the prothrombin concentration is low as a result of faulty absorption, even though bile salts are presumably present in the intestine, oral vitamin K therapy is usually disappointing, and parenteral administration should be resorted to.

In patients with obstructive jaundice in whom the low preoperative prothrombin level has been elevated to normal by means of vitamin K, it has been observed that not infrequently there occurs a fall any time during the first to the fifth (occasionally as late as the tenth) day following operation. This fall has been ascribed to one or to a combination of several factors, the importance of some of which is debatable. These include impairment of hepatic function by the anesthetic and lowered concentration of bile salts in the bile, loss of prothrombin through hemorrhage and through utilization for the formation of fibrin in the wound, decreased consumption of food during the postoperative period, and injury to the liver because of mechanical trauma and absorption of toxins from the site of operation. However, a factor of most importance is the failure to prepare an adequate reserve of vitamin K postoperatively as well as preoperatively.

The failure of some patients with obstructive jaundice and with chronic or acute hepatocellular damage, such as cirrhosis, acute yellow atrophy, etc., to respond to vitamin K regardless of the route of administration may be ascribed to the inability of the damaged liver to convert vitamin K into prothrombin. Such clinical observations fit in with experimental evidence and emphasize the importance of the rôle of the liver in the formation of prothrombin. Oral or parenteral forms of vitamin K therapy usually fail to elevate lowered prothrombin levels in such cases until the functional state of the liver has been improved.

If patients are unable to retain or absorb the oral preparations of vitamin K or the synthetic compounds with vitamin K activity administered along with bile salts, other routes of administration may be resorted to. Some of the synthetic

naphthoquinones, such as methyl naphthoquinone, may be administered intravenously and have been used subcutaneously as well as intramuscularly.

If a patient with a lowered prothrombin level does not respond to vitamin K therapy, such as in the presence of hepatic damage, transfusions of fresh blood should be given in order to control bleeding until hepatic function has been sufficiently improved to allow utilization of vitamin K. Fresh blood rather than "stored" blood should be used because the prothrombin content of the latter may decrease significantly on standing. A transfusion of fresh blood (550 c.c.) may raise the prothrombin level 12 to 15 per cent above the pre-transfusion level. Such an increase may be sufficient to raise the prothrombin concentration above the critical level for bleeding.

Finally, in patients with jaundice, bleeding may occur despite a normal prothrombin concentration. Occasionally one encounters such a patient in whom the bleeding is the result of vitamin C deficiency or a low platelet count.

Vitamin Deficiency in Relation to the General Problems in Internal Medicine

T. Grier Miller, M.D., Philadelphia, Pa.

Now that we have heard from the experts on the individual vitamins, Dr. Elsom has asked me, not as an expert but, like most of you, as a practitioner, to discuss their application to the everyday problems of medicine. I have accepted her invitation, not because I have a contribution to make but because she is not easy to refuse and because, after all, I may be able to present, to some extent at least, the questioning viewpoint of many in this audience.

Although for a long time we have appreciated the significance of the vitamins in relation to such well-defined diseases as scurvy, beriberi, pellagra, and rickets, we are now faced with a multitude of functional and structural clinical phenomena that are said to occur on a vitamin-deficiency basis. Some of them disappear whether or not vitamins are administered; others persist in spite of the administration of all the available vitamins and no matter what the dosage. We are, however, trying to follow the leaders in this field of medicine, and so, influenced to some extent I am sure by the demands of our patients, we continue to prescribe the vitamins for all sorts of ailments. This is indicated by an expenditure for them of \$100,000,000 annually in this country alone.

Undoubtedly much of that money is being wasted.

What we, as physicians, want and need are criteria on which to base judgment as to when the administration of vitamins is indicated, and, if indicated, what vitamins and in what dosage. These, of course, are the problems which our experts are trying to solve for us. Eventually, no doubt, they will supply us with simple clinical laboratory methods by which we may be guided, as simple perhaps as the tests for sugar, urea nitrogen, and chlorides in the blood. Already that has been achieved with reference to a few of the vitamins, particularly the vitamins C and K.

For the present, however, we must depend on less exact criteria—a consideration of the patient's symptoms, general nutrition, and certain special physical signs, an analysis of his food intake, an opinion as to his requirement of vitamins and of his capacity to absorb and utilize them.

Basic Criteria

All of these matters have been discussed, but, with reference to the clinical picture, let me insist that the earliest changes are probably functional rather than structural ones and that, when organic, the early changes are often of such a nature as easily to be overlooked—changes in the texture of the skin, nails, or hair, loss of tone in the muscles, and alterations in the appearance of the tongue, teeth, gums, lips, or eyes. A careful history and a meticulous physical examination, with these ideas in mind, are therefore essential.

As to the diet, we must consider not only the patient's present food habits but those over a prolonged period of time. Poverty, ignorance as to proper methods of preparing food, superstitions, and food fads may be important factors. Even diets prescribed by a physician, such as some of those for peptic ulcer, colitis, nephritis, obesity, and diabetes, may be lacking in sufficient vitamins. "Bachelor's scurvy" results from improper selection of foods by men who do their own cooking. The diet may be adequate in calories, yet lacking in vitamins, as in alcoholics.

Of equal importance is it to remember that, in spite of a vitamin-adequate diet, the patient may be deficient in them because of faulty absorption from the intestine. This may occur in alcoholics, in diarrheal states, in achlorhydria, in jaundice due to the absence of bile salts from the intestine, and in anatomic lesions of the digestive tract with vomiting.

Also, in spite of an adequate intake of food and vitamins and good absorption, a vitamin

deficiency may result from improper utilization within the body. This is known to occur especially in degenerative disease of the liver, in which organ thiamin and vitamin K at least are believed to require some further elaboration before they can be effective.

Finally, the need of the body for the vitamins may be greatly increased, as in heightened metabolic states, such as hard work, prolonged fever, pregnancy, lactation, and hyperthyroidism. Without a change in diet, such patients may cease to be vitamin-deficient when put at rest.

Thus the problem, for the present at least, is by no means a simple one and should enlist our intense clinical interest. Its solution, in part at least, depends on careful observations of a purely clinical nature, which we, as practitioners, without a laboratory, can make and which may in the end be just as important as those of the so-called experts; at least such observations must be correlated with those of the laboratory.

In this connection I am glad to be able to say that through the generosity of a friend and the hearty co-operation of Dr. Turnbull and his staff at the Philadelphia General Hospital we now have a small ward in that institution where Dr. Elsom and Dr. Machella, together with a laboratory staff, are attempting such a co-operative study, and we hope that they, along with Dr. Blankenhorn, Dr. Spies, and other such workers in this country, may soon show us more light on this highly important subject.

DR. R. VERA ZABARKES (Philadelphia): I should like to ask if dried brewers' yeast is just as effective as fresh brewers' yeast. Also, is there any relation between vitamin E and the gonadotropic hormone of the corpus luteum?

DR. ERVIN: I do not believe there is any relationship.

THE CHAIRMAN: In answer to your question as to whether dried brewers' yeast is as effective as moist, I should say in most instances more so, because the concentration of the vitamins is increased in the dried product as compared with the moist.

I might add one further point. Brewers' yeast contains approximately 5 times the concentration of the B complex that is contained in bakers' yeast, and furthermore, bakers' yeast is supplied usually in the moist form, which further decreases the concentration of the substances in a given unit of preparation.

QUESTION: Kindly explain the method of unit standardization in vitamins and the classification of the same.

THE CHAIRMAN: I assume that means the B complex. Originally, the B complex, particularly thiamin and the old vitamin B₂, were quoted in terms of Sherman units. That is gradually being superseded by the international unit, and finally by the milligram or microgram. The old Sherman unit referred to a rate of growth of rats on a standard diet. It is one-quarter the size of the international unit, so that to translate Sherman units into international units, divide the Sherman

units by 4. Then, to translate the international unit into terms of milligrams (this is in relation to thiamin, I may say), there are 333 international units in one milligram of thiamin.

Here is another question: How much does the cold storage of apples reduce the vitamin C content?

DR. KASTLIN: Storage of all types reduces the vitamin C content, and that holds true for the modern frozen foods. That is, the vitamin C content of the frozen foods, when they are warmed for use, is markedly reduced. The whole process of storage by age and by freezing, the cutting and crushing of vegetables, apparently either through the release of certain enzymes or some other process, reduces the ascorbic acid content.

I believe that the best sources of vitamin C are those fruits and vegetables which the housewife is particularly interested in serving uncooked, such as cabbage, strawberries, and the various other fruits.

THE CHAIRMAN: Dr. Blankenhorn, I believe, gave the impression that vitamin B₆ is a comparatively inexpensive product. Mr. Ambrose Hunsberger (pharmacist) tells us that it is not inexpensive, that one 50-milligram dose costs approximately \$2.00, which I should say answers that point very definitely.

Then Dr. Blankenhorn mentioned pantothenic acid, one of the newer members of the B complex. We are told it is not available yet, except for clinical trial, and the supplies are contributed by the manufacturers only.

Mr. Hunsberger tells us that alphatocopherol is now available for prescription use. He also makes the point that liquid petrolatum will not deplete the supply of vitamin A if saturated with carotene before administration. I believe Dr. McDonald also made that point.

QUESTION: Does oral administration of vitamin B₁ cause hyperacidity at times?

THE CHAIRMAN: We have never been able to find any alteration in gastric acidity in the course of B complex deficiency, and I know of no evidence to show that it is altered in single thiamin deficiency. I am sure that its administration as such cannot alter the gastric acid. It might be worth while mentioning that thiamin itself is easily destroyed in an alkaline medium, so that in patients in whom there is hypochlorhydria, or in individuals receiving alkali, the rate of excretion of thiamin given by mouth is greatly reduced, suggesting destruction of the substance in the stomach.

QUESTION: Does vitamin C have any effect on the concentration and mobilization of calcium in the blood? What, if any, is its effect on allergy?

DR. KASTLIN: There apparently is some interrelation with calcium metabolism, and the direct evidence of the relationship of vitamin C to allergy, I believe, has not definitely been established. There are reports of instances in the clinical evidence of allergy where the giving of vitamin C has apparently reduced the patient's sensitivity, but I believe these observations fall into the group in which there have not been adequate controls.

QUESTION: What is the basis of the treatment of chronic arthritis by enormous doses of vitamin D?

DR. RAPAPORT: The exact basis I do not know. However, some people in Illinois state that giving enormous doses of 200,000 to one-half a million units of vitamin D daily will relieve the pain of arthritis.

I think this has recently been repeated in the Massachusetts General Hospital, and their conclusions are diametrically opposed to the original statement. Their

feeling is that large doses probably should not be used in the treatment of arthritis. Certainly one-half a million units of vitamin D daily* is not without danger. Such dosage can induce all the effects of hypervitaminosis, which consist of metastatic calcification of blood vessels, kidney hemorrhages to the gastro-intestinal tract, and in using this therapy without much basis I think consideration of the possible toxic effect should be taken into account. On the whole, the opinion is that the original report has not proved itself.

DR. WILLIAM E. ROBERTSON (Philadelphia): Is the subject of co-carboxylase germane to a clinical conference? If so, what is its importance, and how is it related to Warburg's ferment?

THE CHAIRMAN: Co-carboxylase is a substance formed from thiamin by the phosphorylation of thiamin. Thiamin is converted to co-carboxylase in the liver, and also in the red blood cells. Thiamin itself is probably inert in the body and must be transformed into this form to be active.

It is now known that the point at which thiamin acts is at a certain stage in the breakdown of the glucose. Specifically, it is necessary for removal of the carbonyl group, the CO grouping, in order that the breakdown may continue to carbon dioxide and water.

As to its relation to Warburg's ferment, it has no relation. Riboflavin combined with protein is the so-called "yellow ferment of Warburg" which is necessary for the carrying out of oxidative processes of cells.

Here is another question: What is the incidence of hypersensitivity to thiamin chloride and other B fractions?

I do not know of any evidence of hypersensitivity to thiamin or any of the other fractions.

DR. ROBERT H. ISRAEL (Warren): Discuss the possible harmful effects of excessive or unnecessary doses of vitamins such as brewers' yeast or of wheat germ.

THE CHAIRMAN: I do not believe there can be any harmful effect from the administration of brewers' yeast or wheat germ other than that the patient's money is wasted. You probably give him more than he needs, but as long as you are supplying all members of the B complex, and in the proportions in which they occur in nature, I believe there can be no possible danger from large doses of either one of those substances.

QUESTION: Are the results of vitamin treatment usually better with the use of moderate frequent doses than with large doses?

THE CHAIRMAN: There are recent studies to show that in patients deficient in thiamin the administration of small doses over a period of time is followed by a lower excretion of that substance than if the same amount is given in a single or in massive doses. In other words, apparently the deficient individual can utilize thiamin to a better advantage if given in small doses over a period of time than if given in single or large doses.

DR. KASTLIN: I do not believe that holds true entirely with vitamin C. Tissue cells will absorb very large doses of vitamin C, either given orally or by injection, depending on the necessity of those tissues for the substance. So that if there is adequate gastric function, you will get as efficient response from oral administration as you will get by injection, and you may give large doses infrequently with as much efficiency as from smaller doses frequently.

THE CHAIRMAN: Dr. McDonald, one frequently hears of physicians prescribing vitamin A and D concentrates—particularly vitamin A—in the winter, and there are reports to the effect that the incidence of upper respiratory infection is reduced following such medication. Is there anything in that?

DR. McDONALD: We know that in severe vitamin A deficiency the general resistance to infection is lowered. We also know that in a moderate deficiency respiratory infections tend to be prolonged. Apart from that, I think there is no justification for calling vitamin A the "anti-infective vitamin." If a person is deficient in vitamin A, he is probably deficient in other vitamins, too, but I doubt if the administration of vitamin A alone will have much effect upon the general course of respiratory infections.

Vitamin A applied locally has now been shown to have practically no effect on subcutaneous infections.

DR. RAPAPORT: Dr. Stokes, of the Children's Hospital, just returned from France. He was interested in making concentrates available to refugee populations and dislocated populations, and he had considered carotene as a source of vitamin A.

In talking with one of the French investigators at Marseilles, he said it was probable that it is not a suitable substance for the French population because their investigations had demonstrated that something like 25 or 50 per cent of the French cannot convert carotene into vitamin A. On that basis they advised against the use of vitamin A, and I should like to ask Dr. McDonald if he knows anything about that?

DR. McDONALD: I am afraid that implies that a large percentage of Frenchmen have cirrhosis of the liver.

Vitamin A can be obtained in concentrates to 500,000 units per gram. That is not at present on the market, but I think if one wanted to dispense large quantities of vitamin A, much larger doses could be given by vitamin A concentrate than by sending carotene.

DR. CHARLES H. AMBROSE (Osceola Mills): I have been told recently of an almost infallible cure for cirrhosis, which includes vitamin feeding plus a cod liver oil ointment. I think it would be interesting to have that discussed.

DR. RAPAPORT: My knowledge of that is very fragmentary. Dr. Pillsbury told me that he was interested in the effects of feeding large doses of vitamin D in cirrhosis. There had been a report that a number of patients had responded. He said his personal experience was uniformly bad—that he had not been able to reproduce any of those cures.

THE CHAIRMAN: I should like to ask Dr. Rapaport a question. Would the irradiation of milk and cereal and other foods that are available, together with the concentrates of vitamin D used so generally, present any likelihood of overdoses, particularly in children?

DR. RAPAPORT: No; if we were to feed 10 times the recommended doses, or probably 20 times, we still would not get into overdoses, even if fed for long periods of time. The amounts introduced into foods are small. The majority of adults, if they were to take irradiated milk in average amounts, would probably get only 30 units a day. You have to eat 6 slices of bread to get 125 units, and if you add the things in which it has been introduced, including "hot dogs," I doubt very much if you would get more than 400 units a day if you selected a diet that would contain all of these things.

The original statement I made was that there are very few natural foods that can be obtained with an adequate dose of vitamin D, and my guess is that still holds. A natural source is egg yolk, and to get an adequate amount from egg yolks you would have to eat 5 a day, and very few people take that amount.

THE CHAIRMAN: You inferred that it would be desirable for all adults to receive a concentration of vitamin D.

DR. RAPAPORT: That is based on the statement that bone is constantly in a state of flux, and bone cells are giving up their calcium and it is being replaced. You will not get replacement unless vitamin D is provided. On that basis, all adults should have added to their diet some source of vitamin D, either milk or irradiated milk, or possibly a small amount of cod liver oil, or one of the concentrates on the market.

Dr. Park, who has written an admirable review of vitamin D therapy, seems convinced of that, although no figures are given as to the requirements of adults, adolescents, and even older children for a day.

THE CHAIRMAN: What about the crude sources, such as cod liver oil, as compared to the concentrates?

DR. RAPAPORT: We think there is a distinct disadvantage in the use of cod liver oil in certain instances. In the past it has been forced into malnourished children and infants, and in the very infants in whom you want to get large doses of these substances you generally succeed in doing damage instead of giving help because they aspirate it into their lungs. We have records of a large number of children with aspiration pneumonia due in large measure to the aspiration of cod liver oil. All that cod liver oil contains are vitamins A and D, and the natural concentrated fish oils contain vitamins A and D also.

CORRECTION

The formula appearing on page 585 of the February issue of the *Journal* should have read: Sulfanilamide powd. $\mathfrak{z}\text{ii-}\mathfrak{z}\text{iv}$, powd. tragacanth gr. xx, glycerine $\mathfrak{M}\text{lxxv}$, alcohol $\mathfrak{M}\text{xxxv}$, syr. raspberry fl. $\mathfrak{z}\text{iv}$, aq. dest. q.s. ad. fl. $\mathfrak{z}\text{vi}$. Each fl. $\mathfrak{z}\text{ii}$ represents 5 to 10 grains of the remedy as the case may be.

The Demonstration of Tumors, Non-Neoplastic Disease, and Foreign Bodies in the Neck and Chest by Body Section Roentgenography (Planigraphy)

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DURING the past decade a new method of roentgen examination has come into use that is of great diagnostic value because it enables the visualization of lesions not demonstrable by conventional roentgen methods. This method entails the use of planigraphic apparatus in such a way that a layer of tissue at any predetermined depth in the body is recorded on a roentgenogram to the exclusion of the shadows of structures below or above the layer being examined.

A description of the planigraphic equipment in use in the Department of Radiology of Temple University Hospital is available in the literature,¹ and anyone interested in the various types of planigraphic apparatus and the underlying principles of planigraphy should refer to the excellent articles of Robert Andrews² and Sherwood Moore.³

Practical application of the method is made in various parts of the body, but it is especially useful in the respiratory tract to demonstrate disease processes that are not otherwise satisfactorily visualized because of interfering shadows such as are produced by the spine, rib cage, pleural fluid, and lung consolidation.

Roentgen film study of the soft tissues of the neck was limited to lateral projections prior to the advent of planigraphy, but now, by the use of this new method, it is possible to visualize the larynx and adjacent structures by anteroposterior roentgenograms (Fig. 1). Planigraphy is especially valuable to lateralize a laryngeal tumor and demonstrate its size, extent, and the stenotic effect it produces on the airway (Fig. 2). In the subglottic region it is superior to any method of examination, including endo-

scopy, for evaluation of the size and extent of a neoplasm (Fig. 2).

Felix Leborgne,⁴ in 1936, was the first to call attention to the value of frontal planigraphy to study the larynx and, in addition to the aforementioned indications for its use, he pointed out that a laryngocele could not be diagnosed by any other type of examination. Stenosis of the larynx and trachea seen in children following diphtheria and high tracheotomy is well delineated by planigraphic films, and they serve as an indicator of the progress made during treatment of this condition.

Constriction and invasion of the lateral tracheal walls that result from conditions such as carcinoma of the thyroid and Hodgkin's disease are clearly demonstrated by anteroposterior planigraphy, and in the chest this procedure is also the only satisfactory way to show side-to-side narrowing of the trachea since the spine and mediastinal structures interfere when visualization is attempted using conventional roentgen-ray methods (Fig. 3). If the thoracic trachea is markedly narrowed by intrinsic disease, lateral planigraphy is often more informative than the anteroposterior planigrams, because it is difficult to obtain true anteroposterior planigraphic sections of this portion of the airway.

Foreign bodies in the neck and chest that are not of sufficient density to be visualized by both anteroposterior (or postero-anterior) and lateral roentgenograms are readily localized by planigraphy. In the neck the interference by the spine shadow with film visualization of a foreign body in relation to the lateral margins of the air or food passages is obviated by anteroposterior planigraphy, and in this region the method is especially valuable if the foreign body is partially or largely extraluminal, and therefore out of range of endoscopic vision (Fig. 4, A and B). Removal of the foreign body is possible imme-

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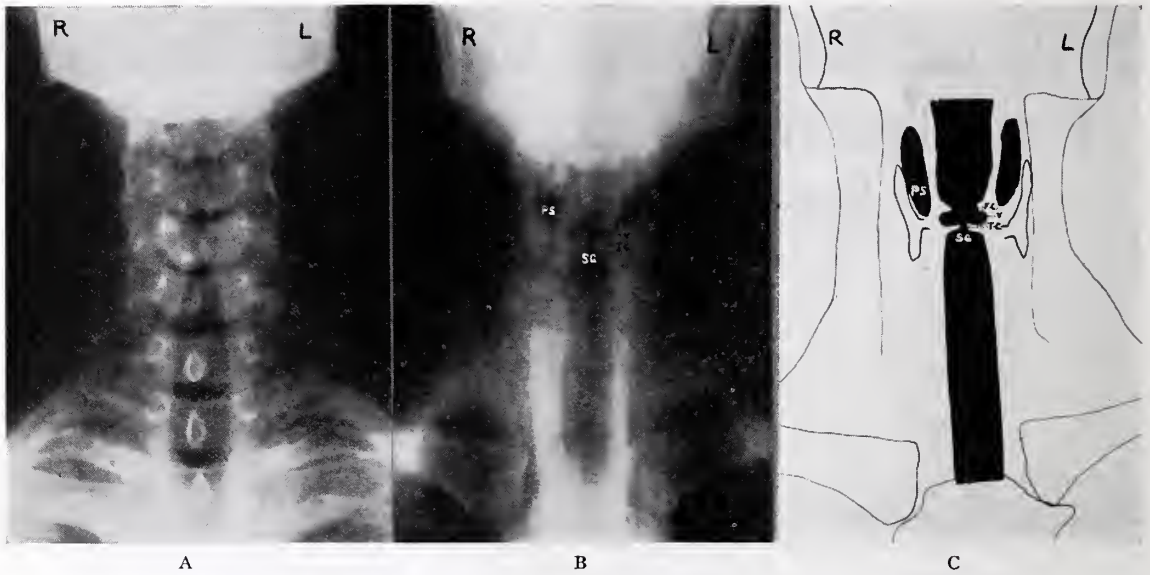


Fig. 1. Comparison of planigraphic and conventional roentgenograms of normal larynx. A, conventional anteroposterior film. Superimposition of spine shadow prevents visualization of laryngeal and adjacent soft tissue shadows. B, planigram clearly delineates laryngeal structures; P.S., pyriform sinus; F.C., false cord; V, ventricle; T.C., true cord; S.G., subglottic region.

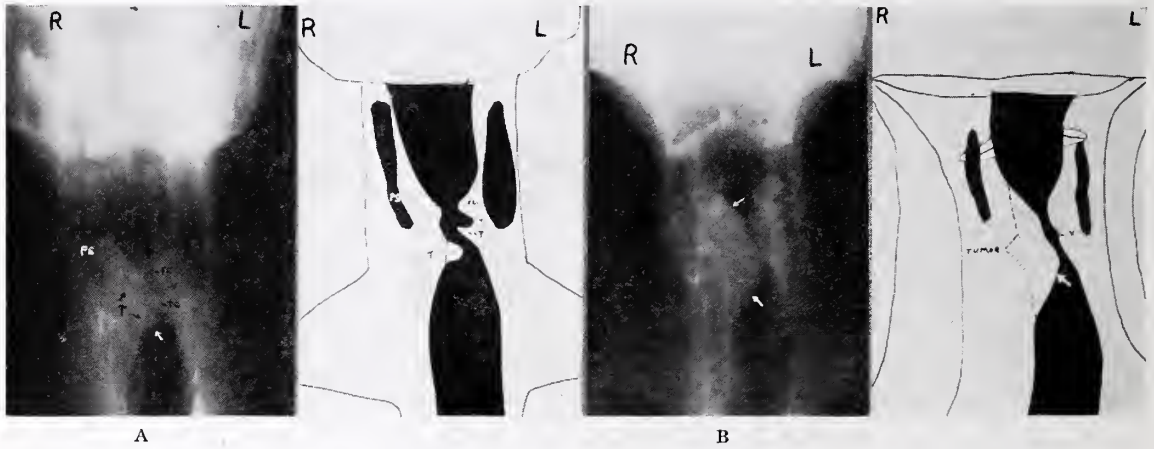


Fig. 2. Carcinoma of larynx with subglottic extension. A, tumor involves right true and false cords and extends into subglottic region (arrow). Right ventricle is almost obliterated and right pyriform sinus is encroached upon by tumor. F.C., false cord; V, ventricle; T.C., true cord; T, tumor; P.S., pyriform sinus. B, cancer of right cords narrows and displaces airway. Arrows indicate mesial margins of tumor.

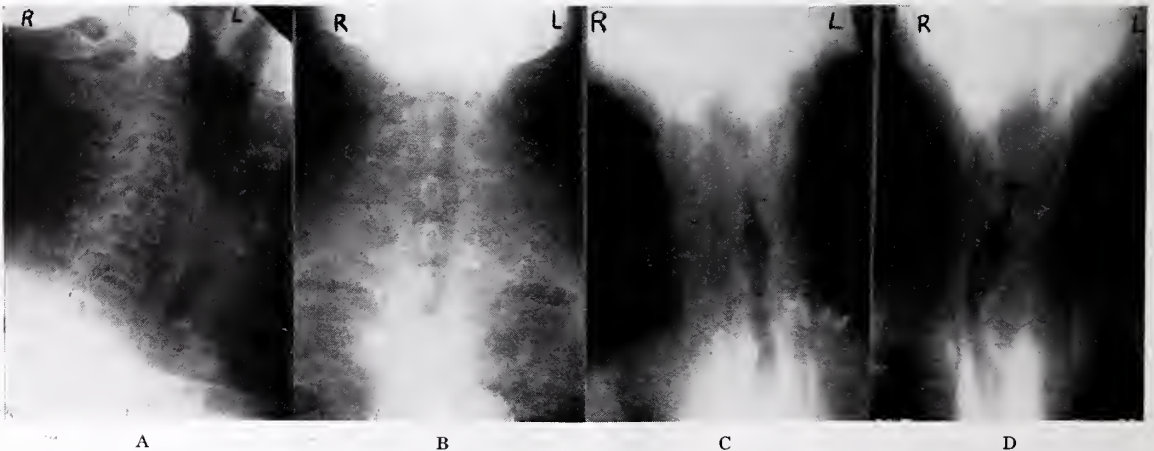


Fig. 3. Tracheal deformity and stenosis demonstrated by planigraphy. Nonplanigraphic films, A and B, do not show true extent of tracheal stenosis, but planigram, C, of same patient reveals marked lateral encroachment of airway by carcinoma of thyroid. D, another illustration of sharp definition of lateral margins of airway made possible only by planigraphy. Note paralyzed left cord, T.C., and deformity of lateral tracheal wall due to cancer of thyroid.

diately after localization instead of the customary 24-hour delay that is necessary when an opaque mixture is used for lateralization.

In the chest the method is useful to determine the position of a foreign body when it is visualized only by ventral or dorsal projections but not by lateral roentgenograms. This may occur when the foreign body is surrounded by either atelectatic or consolidated lung tissue. Under these circumstances it is possible to local-

ize the foreign body in relation to the main bronchial divisions and the anterior and posterior aspects of the lung since the depth of the planigraphic section that contains the foreign body is known (Fig. 4, C and D). Bronchoscopic removal is thus made possible.

Tumors in the chest that are not demonstrated by conventional roentgenograms on account of atelectasis or consolidation of the lung adjacent to the tumor, or perhaps a layer of fluid in the

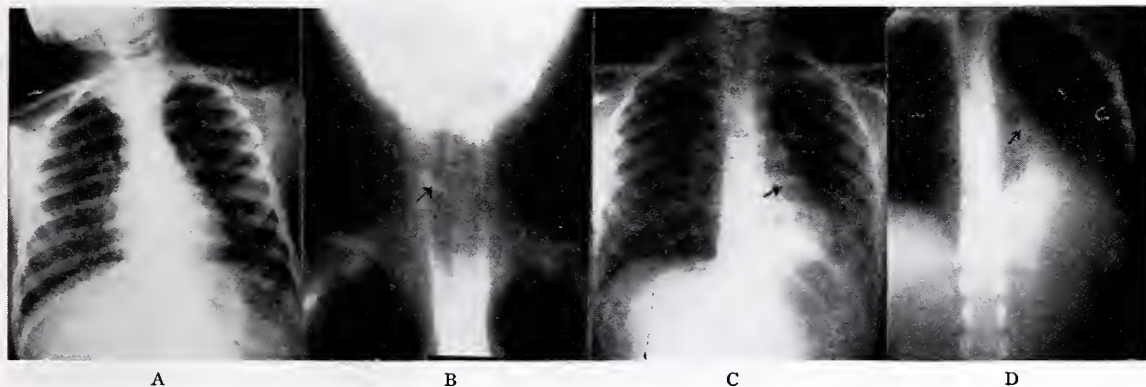


Fig. 4. Planigraphic localization of foreign bodies in neck and chest. A, superimposition of spine shadow prevents visualization of foreign body in cervical esophagus. B, planigram reveals shape and position of foreign body. C, shadow of tooth root fragment seen by dorsal but not by lateral projections. D, planigraphic section demonstrates foreign body better than C and indicates its depth in the lung as well as its relation to the left lower lobe bronchus.

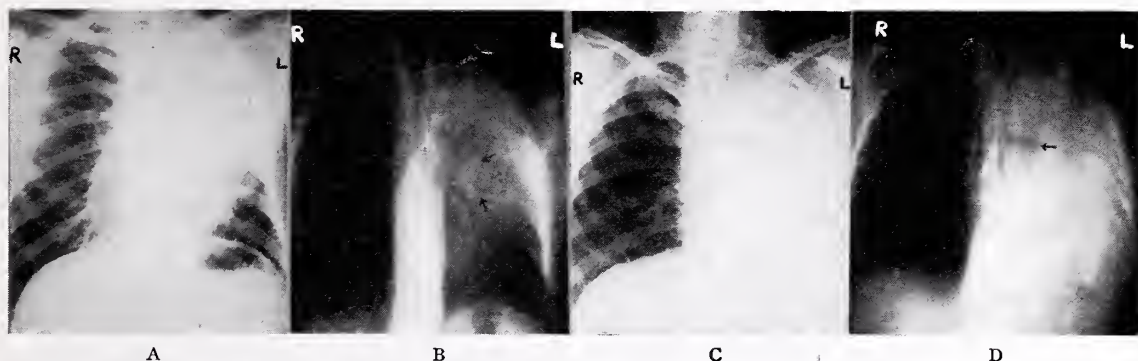


Fig. 5. Planigraphic visualization of bronchial tumor despite presence of adjacent dense lung tissue. A, atelectasis of upper lobe is apparent, but no information obtained as to cause of atelectasis or site of obstructive lesion. B, planigraphic film of same patient shows tumor and indicates its depth. Aspiration biopsy made possible by this localization and tissue obtained was positive for carcinoma. Planigraphic section exposed at level 1 cm. anterior to B revealed bronchial obstruction. C, complete atelectasis of left lung produced by bronchial carcinoma. D, point of bronchial occlusion shown by planigram, but tumor not clearly defined by this particular section.

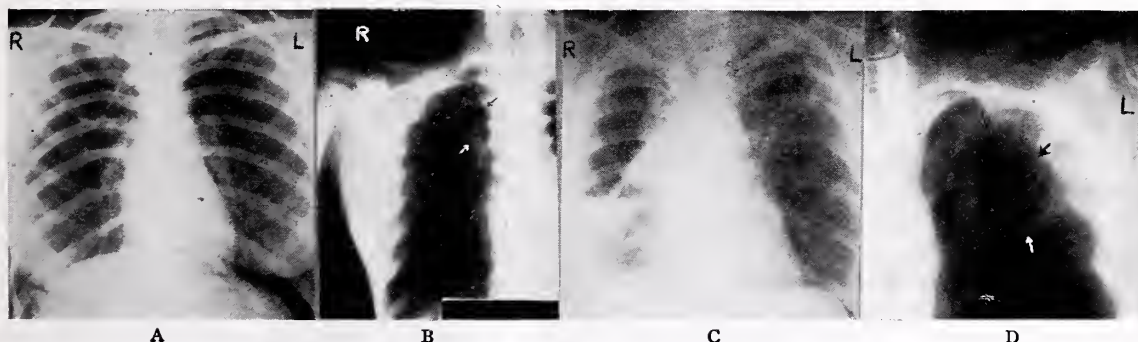


Fig. 6. Demonstration of lung cavities not revealed by conventional roentgenograms. Films A and B are of the same patient. Cavity seen in planigram B was not delineated by ordinary film, A. Large cavity in left upper lobe, D, not demonstrated by conventional film, C.

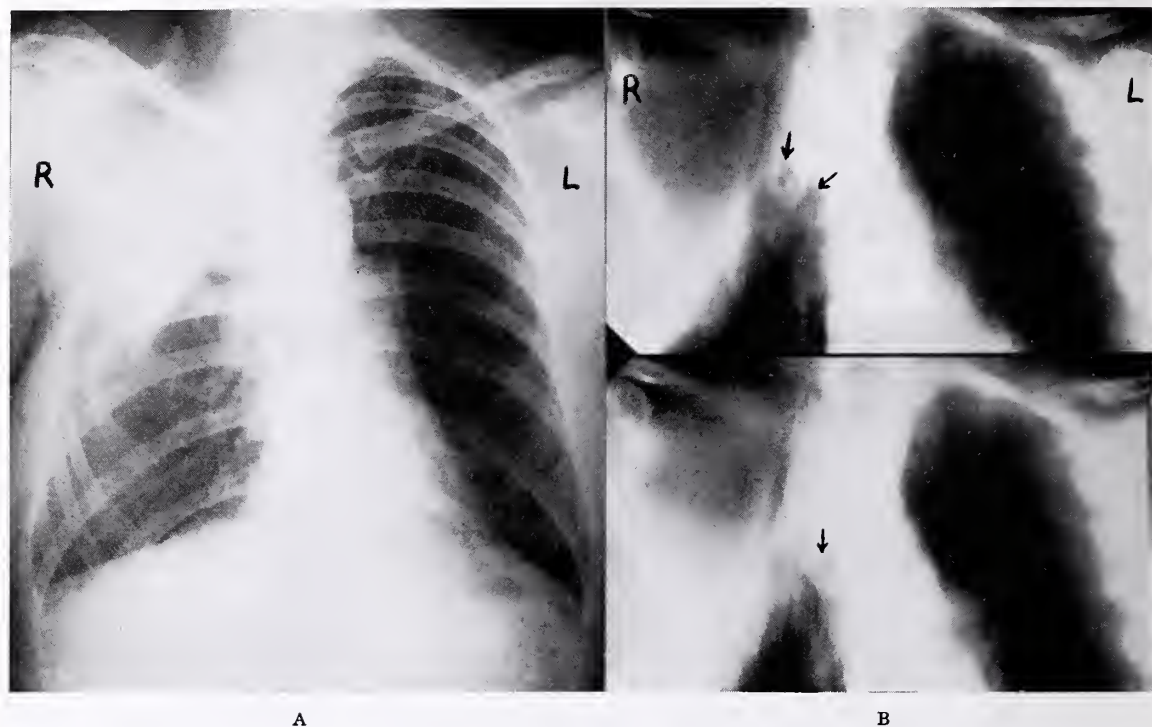


Fig. 7. Residual tuberculous cavitation in lobe apparently adequately collapsed by thoracoplasty. Several cavities demonstrated by planigraphic films, B, not seen by ordinary film, A.

pleura, are delineated by body section roentgenography because only the layer of tissue that contains the tumor is recorded and interfering superimposed shadows are eliminated (Fig. 5B). In addition to actual visualization of the tumor, its depth is determined by anteroposterior planigraphy and thus adequate localization is obtained for aspiration biopsy (Fig. 5B). Bronchial stenosis or occlusion due to tumor is made apparent by planigraphy if the bronchus is of appreciable size, but the planigraphic section that shows the bronchial deformity may not demonstrate the neoplasm as well as one made at a slightly different level (Fig. 5D). This indicates that most of the tumor mass lies anterior or posterior to the plane of the bronchus.

Planigraphy is especially valuable to demonstrate lung cavities, either tuberculous or non-tuberculous, that are not visualized by conventional roentgen studies. For this reason the method is indispensable during the management of pulmonary tuberculosis when cavitation is suspected because of the clinical and laboratory findings, and yet there is no evidence of lung cavity by ordinary roentgen-ray examination (Fig. 6). Our experience includes the demonstration of residual tuberculous cavities in lungs that were considered to be adequately treated by collapse therapy because of their benign non-planigraphic appearance.

Ordinary roentgenograms give little information as to the condition of the lung that is collapsed by thoracoplasty because the compressed lung tissue and the overlying pleura are so dense that a homogeneous shadow is produced, but the underlying lung tissue and any residual cavitation in it are demonstrated by planigraphy (Fig. 7).

Summary

Body section roentgenography makes possible the demonstration of disease processes in the neck and chest that are not visualized by any other method of roentgen examination. In the neck, anteroposterior planigraphy enables the visualization of the soft tissues, especially those of the larynx, because it eliminates the spine shadow. The method is invaluable to lateralize a laryngeal lesion, and a tumor in the subglottic region is better evaluated as to size and extent by planigraphy than by any other method of examination. Any change in shape of the airway due to trauma, severe infections, or carcinoma is revealed by planigraphy, even though such a demonstration is impossible by conventional roentgen studies. Tumors in the chest are delineated despite the presence of pleural fluid or dense lung tissue in the neighborhood of the neoplasm. Not only is a tumor visualized by anteroposterior planigraphy but its depth is determined, and thus aspiration biopsy is pos-

sible. Lung cavities that are not seen by ordinary film examinations are clearly demonstrated by planigraphy, and for this reason the method is particularly valuable to the phthisiologist and thoracic surgeon, especially when collapse therapy is used. In our opinion, planigraphy is as reliable to rule out lung tumors or cavities of any appreciable size as it is to establish the presence of either of these two conditions. When indicated, planigraphy is a valuable aid in the localization of opaque foreign bodies in the neck and chest.

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ABSTRACT OF DISCUSSION

CHEVALIER L. JACKSON (Philadelphia): Dr. Young has very conclusively demonstrated the practical value of planigraphy in the roentgen study of the neck and chest. He has shown that it isn't just a stunt, but that it has a very definite, practical use.

I have long been interested in the roentgen-ray study of the neck. I remember viewing a series of neck roentgenograms with Dr. Pancoast and Dr. Pendergrass in 1930, and then 6 years later I read a paper at a meeting of the New England Roentgen Society devoted to the evaluation of roentgen study of the neck. In these earlier studies we had only lateral roentgenograms and an occasional anteroposterior view. Hence, I was interested in this newer method, which gave us an anteroposterior picture that meant much more than the previous anteroposterior pictures had meant, and not the last to be convinced of its value.

I had seen some of the work of Dr. Leborgne, of Montevideo, whom Dr. Young mentions in his written paper as having been one of the first to point out the value of this method, particularly in connection with cancer of the larynx. The cases in which I have found it of particular help are those of subglottic lesions, where the endoscopist may get a view of the lesion through the direct laryngoscope and be able to take a specimen for biopsy, but not see the lower end of the lesion, because there is too much narrowing of the

lumen to permit passage of the scope all the way through.

By studies in the anteroposterior plane by the method of planigraphy, we can see just how far subglottically the lesion goes. We can sometimes tell whether or not we are justified in forcing a tube or some sort of instrument through from above. When we do a direct laryngoscopy subsequently, we know just what lies beyond from these preliminary studies.

In roentgen studies of laryngotracheal stenosis, we can not only obtain information which is of value to us but we secure a graphic record for subsequent comparison.

It is only occasionally that foreign bodies call for the use of planigraphy. The two cases that Dr. Young has shown are the only two in which I recall its having seemed necessary. He spoke of the use of planigraphy for an extraluminal foreign body in the upper cervical esophageal region. I think it isn't only extraluminal foreign bodies but any foreign body whose shape we wish to know in the anteroposterior plane, even if it is still in the lumen. Dr. Young doesn't realize perhaps of how much value it is to the endoscopist, in approaching through the mouth an irregular and perhaps sharp-pointed object, to know to which side that uppermost point which he wishes to attack first is located. I believe that any foreign body that is sufficiently light in density not to be seen in ordinary anteroposterior films should be studied with a planigraphic film. That means that pieces of glass, pieces of bone, and so forth, can be very advantageously studied by planigraphic methods preliminary to endoscopic approach.

As for the chest, I think those of us who are interested in endoscopic examination of the bronchi and esophagus have been largely responsible for the emphasis on ordinary lateral projection films in the past few years. We have kept asking for lateral films because of the help they give us in the lobar localization of lesions and foreign bodies. Then the use of lipiodol bronchography was the next roentgen aid to the bronchoscopist. Now, the addition of the planigraphic technic enables us to cut through superimposed densities, as Dr. Young has shown, and is of the greatest value, both positively and negatively, in selected cases—not as a routine method, but as a supplementary method with its own indications.

Finally, I would just like to say that we have long regarded both preliminary and later comparative roentgen studies as fundamental to the practice of laryngology and broncho-esophagology, and now this planigraphic technic has only brought the roentgen ray up to an even higher level of usefulness than we had thought possible.

"FIRSTS" REPORTED

This issue of the *Journal* contains carefully prepared reports more than merely indicative of the general character of the purposes and accomplishments of two newly organized movements recently holding their first meetings with carefully planned programs.

The *Journal*, as the official publication of The Medical Society of the State of Pennsylvania, traditionally and specifically calls attention to the reports (see page 741, also page 757) since they represent movements beneficial to the health of the people of the Keystone State.

Stilbestrol: A Clinical and Investigational Study

Preliminary Report

JOSEPH A. HEPP, M.D.
Pittsburgh, Pa.

THE synthesis of a new estrogen was announced by E. C. Dodds and his associates in 1938. It was named diethylstilbestrol because of its derivation from stilbene and contained 2 ethyl groups and was estrogenic. Stilbestrol can be easily synthesized and does not contain the phenanthrene nucleus formerly thought to be an essential component of an estrogenic active substance.

Clinical trials of stilbestrol have resulted in uniform agreement concerning its estrogenic effects, but considerable disagreement concerning its toxicity. This is true in both the British and American literature. E. Shorr, F. H. Robinson, and G. N. Papanicolaou reported toxic symptoms in 80 per cent of 44 treated cases. C. M. MacBryde and his associates reported a series of 56 women treated with stilbestrol dipropionate and only 9 patients (16 per cent) had unpleasant effects, as nausea or vomiting. There was no laboratory evidence of toxicity as he reported no changes in the studies of blood and urine, and liver function tests showed no evidence of hepatic impairment. U. J. Salmon, S. H. Geist, and R. I. Walter recently reported toxic symptoms in 64 per cent of 45 patients who were treated with stilbestrol, both orally and intramuscularly. On the other hand, some investigators report a small percentage of side effects. For example, in the series reported by W. R. Winterton and T. N. MacGregor, comprising 51 women, some of them experienced slight nausea during the treatment, but in only one case was the drug poorly tolerated. C. W. Mucklé reported only 2 patients who were nauseated in a series of 75 puerperal women receiving stilbestrol for the purpose of inhibiting or suppressing lactation. F. L. Payne and Mucklé reported nausea and occasional vomiting in only 7 of 68 patients who were treated with stilbestrol

for the purpose of relieving menopausal symptoms. To present a detailed review of the extensive literature on the clinical use of this compound is beyond the scope of this paper.

Material

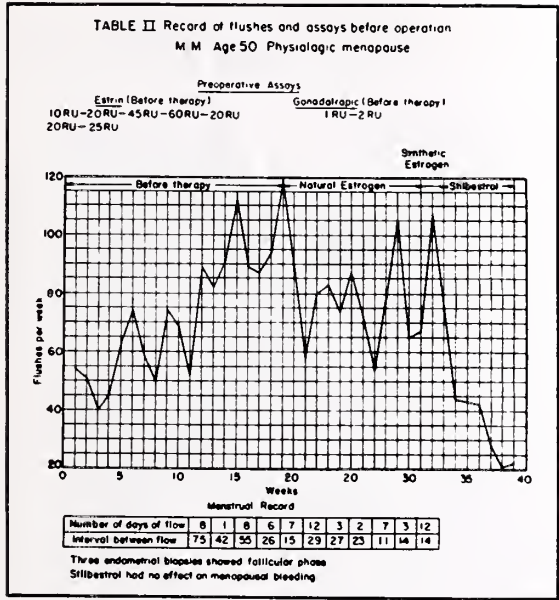
Our clinical material consists of 144 cases from the St. Francis Hospital, the gynecologic endocrine clinic of the Magee Hospital, and the University of Pittsburgh. In this group of 144 patients, the following classification was made: Group I, physiologic menopause; Group II, surgical castrates—patients on whom a complete bilateral oophorectomy was done; Group III, surgical menopause—patients who developed menopausal symptoms after removal of some ovarian tissue, i. e., the remaining ovarian tissue after operation was insufficient to prevent the onset of menopausal symptoms; Group IV, roentgen-ray or radium castrates; Group V, functional bleeding; Group VI, pruritus vulvae; Group VII, secondary amenorrhea; Group

TABLE I
MENOPAUSAL PATIENTS

	AGE	TREATMENT DAYS	TOTAL DOSE MG.	USUAL DOSE MG.	COMMENT
1.	34	98	175	1--5	TRANSITORY NAUSEA
2.	37	70	117.5	0.5--1.0	NO TOXIC SYMPTOMS
3.	50	77	135.4	0.1--1.0	NO TOXIC SYMPTOMS
4.	49	84	114.4	0.1--1.0	NO TOXIC SYMPTOMS
5.	37	77	64	1.0	TRANSITORY NAUSEA
6.	32	119	83.2	0.1--1.0	VOMITING DISAPPEARED WITH SMALLER DOSE
7.	57	217	190.8	0.1--5.0	TRANSITORY NAUSEA
8.	50	97	44.3	0.1--1.0	VOMITING OCCURED WHEN DOSE WAS INCREASED
9.	35	70	23	0.1--1.0	NAUSEA DISAPPEARED AFTER DECREASE IN DOSE
10.	37	108	70	1.0	TRANSITORY NAUSEA
11.	44	290	243.8	0.1--1.0	NAUSEA DISAPPEARED WITH SAME DOSE
12.	39	126	342.0	0.1--5.0	NO TOXIC SYMPTOMS
13.	30	113	159.0	1.0	NO TOXIC SYMPTOMS
14.	38	104	111.0	1.0	TRANSITORY NAUSEA
15.	47	140	50.0	1.0	NO TOXIC SYMPTOMS

Read before the Section on Obstetrics and Gynecology of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 1, 1940.

From the Department of Gynecology, University of Pittsburgh, School of Medicine.



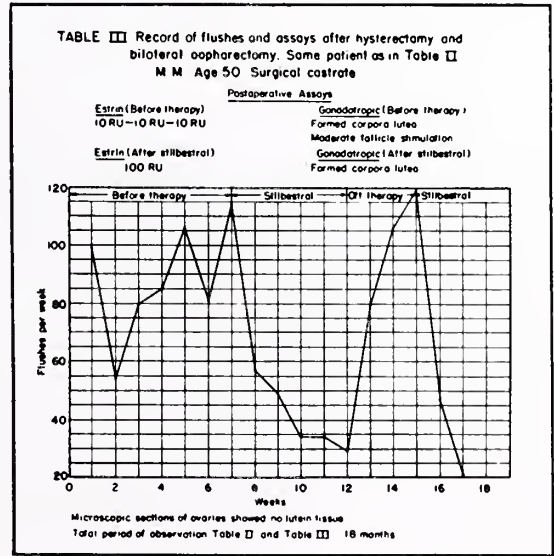
patients were benefited with 0.1 to 0.5 mg. dosage. The dosage varied with the severity of the symptoms. The flushes were decreased in every patient.

Group III. Surgical Menopause.—There were 8 patients in this group, ranging in age from 30 to 50 years. Seven received the following dosages: 0.1 mg., 0.5 mg., and 1.0 mg., while one patient received 5 mg. hypodermically and 1 to 5 mg. by mouth. The latter was treated over a period of 56 days, during which time she received 172 mg. She developed withdrawal bleeding after the 5 mg. dose. Another side effect in this woman was pigmentation of the nipples and the areolae. Improvement was noted in all of these patients.

Group IV. Roentgen-ray or Radium Castrates.—The symptoms in this group were more severe than those in the physiologic menopause group. The dosage for 5 of the patients ranged from 0.5 mg. to 1 mg. orally, but the sixth, because of the severity of the symptoms, received a 5 mg. dose daily, either orally or intramuscularly. After this patient became stabilized, she was carried on a 1 mg. daily dose, and received a total of 175 mg. over a period of 98 days. Hormone assays in this patient before treatment showed the following estrin values: 10 RU, 4 RU, 4 RU, 6 RU. After stilbestrol therapy the estrin values were increased as follows: 105 RU, 90 RU, 105 RU. The patients in this group were 34 to 54 years of age.

Group V. Functional Bleeding.—One patient was age 24 and the other 34. Both received a daily dose of 5 mg. There was no improvement.

Group VI. Pruritus Vulvae.—The first patient was age 60 and received 0.1 mg. daily, which was sufficient to relieve her symptoms.



VIII, infantile vulvovaginitis; Group IX, premenstrual tension; Group X, puerperal women—stilbestrol was given to inhibit lactation.

In the series of 144 patients only 8 received intramuscular injections, but in each case oral therapy was given at the same time. The following patients received stilbestrol intramuscularly: surgical castrates, 3; surgical menopause, 2; functional bleeding, 1; pruritus vulvae, 1; roentgen-ray castrates, 1. In the group of 144 patients the ages ranged from 3 to 60.

Group I. Physiologic Menopause Syndrome.—This group consisted of 9 patients, ranging in age from 43 to 57 years. Their complaints included the following symptoms: headache, vertigo, hot flushes, muscle and joint pains, insomnia, and lassitude.

Improvement of symptoms in all our menopause patients was judged entirely on a reduction or cessation of hot flushes. The patients kept a daily written record of the number of hot flushes in 24 hours.

Routinely the patients received 1 mg. stilbestrol once or twice daily. Two were given 5 mg. daily. One was started with 1 mg. daily and her symptoms were relieved with as little as 0.1 mg. by mouth daily. It was found that the hot flushes were decreased with oral therapy.

Group II. Surgical Castrates.—This group included patients who had all ovarian tissue removed at laparotomy. There were 31, ranging in age from 30 to 50 years. The symptoms were more severe in character and intensity. The chief symptom in most of the patients consisted of hot flushes and sweats. The dosage consisted of 1 to 5 mg. by mouth daily, but a few of the

The second patient was age 40 and the dosage varied from 1 to 5 mg. daily. There was no improvement in the second patient.

Group VII. Secondary Amenorrhea.—The age range in these 4 patients was 23 to 39 years. The dosage varied from 0.1 mg. to 5 mg. Bleeding occurred in one patient who had been given 0.1 mg. daily for 17 days, after which the flow occurred. There was no improvement in the other three.

Group VIII. Infantile Vulvovaginitis.—The ages of these 2 patients were 3 and 6. Repeated smears showed numerous pus cells but no evidence of the gonococcus. The daily oral dosage varied from 0.5 mg. to 1.0 mg. After 3 weeks' treatment, there was no exudate.

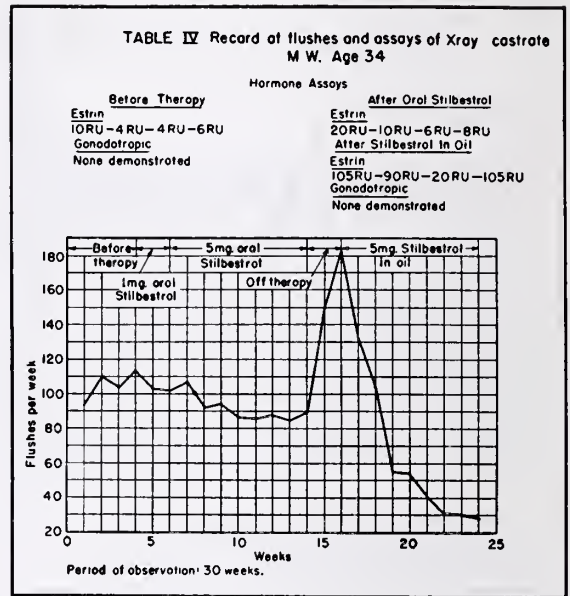
Group IX. Premenstrual Tension.—One patient was 32 years old and her chief symptoms were nervousness and irritability 7 to 10 days before the onset of the flow. She was relieved on a 1.0 mg. daily dose by mouth. The second patient was 38 years old with a chief complaint of sore breasts. The complaint was relieved by giving 0.1 mg. daily by mouth for 10 days before onset of flow.

Group X. Puerperal Women.—In this group there were 78 women to whom stilbestrol was given to suppress or inhibit lactation during the puerperium. The average oral dose was 1.0 mg. in tablet form. Other doses employed were 0.1 mg., 0.5 mg., and rarely 5 mg. Stilbestrol was used with satisfactory results to suppress lactation in the puerperium in these patients. A more detailed report is being prepared for a future paper.

Side Effects

An estrus or squamous type of vaginal epithelial response appeared usually, although relief of the hot flushes occurred frequently at a lower dosage than did the vaginal changes. Our findings in regard to vaginal spreads were inconsistent.

Recurrence of vaginal bleeding appeared in 4 patients who had ceased menstruating 14 months before, 6½ years before, 5 years before, and 7 years before. Endometrial biopsy before treatment revealed atrophic endometrium, whereas after therapy the endometrium showed cystic hyperplasia. One of the 4 patients noticed an increase in pigmentation of both breasts and complained of tenderness over the nipples. Examination of the areolae and nipples showed they were dark brown and almost black, as is frequently seen during pregnancy. The glands of Montgomery were not enlarged and colostrum was not present. Examination of the breasts after discontinuation of stilbestrol revealed a



light brown color of the skin, and the skin was desquamating.

Hormone assays revealed that estrin values were increased after stilbestrol therapy. Tables II, III, and IV show these increased estrin values. This is similar to the findings following natural estrogen therapy. In some patients the gonadotropic factor was inhibited by oral stilbestrol.

Toxic Reactions

Reports in the literature are widely divergent upon the subject of toxicity. Blood counts and urinalyses on patients who were treated over a long period of time showed no alteration from the normal.

Table I shows the total dosage in the patients who were treated over the longest period of time in this series. Each patient belongs to the menopausal group.

In our series of 144 patients, nausea, vomiting, and transitory nausea occurred in 25 (17 per cent). Transitory nausea was usually present for 3 to 4 days and this symptom was never severe enough to take the patient off stilbestrol. Excluding those who exhibited transitory nausea, the percentage of patients showing toxic reactions is 9 per cent. Only one in the entire group asked to have natural estrogens substituted for stilbestrol. None of our patients developed skin lesions or exhibited clinical evidence of liver damage. Liver function tests on several who were treated over a long period of time revealed no abnormal findings.

Results

The more frequent and disturbing symptoms, such as hot flushes, headache, nervousness, and

vertigo were successfully relieved in a large percentage of menopausal cases. In many instances the patients themselves informed us of the improvement. This was particularly true in those to whom the medication was given without their knowledge of it. In the menopausal group, when barbiturate compounds were substituted for stilbestrol, there was usually a return of the symptoms. The radiologic cases and the surgical castrates not only presented the most severe symptoms but required larger doses.

Impressions

In this study we were impressed with the results following the use of a comparatively small dose by mouth. Stilbestrol is estrogenic, and small quantities relieve climacteric symptoms in the majority of patients. This applies to the physiologic and artificial menopause. Stilbestrol is of value because of ease of administration, inexpensiveness, and effectiveness when taken by mouth. Further studies are being made at the present time for a final report on this new synthetic estrogen.

The author is indebted to the following commercial organizations for generous supplies of diethylstilbestrol used in this series: The Upjohn Company, Eli Lilly and Company, Parke, Davis & Company, Winthrop Chemical Company, E. R. Squibb & Sons, and Burroughs-Wellcome & Company.

ABSTRACT OF DISCUSSION

NORRIS W. VAUX (Philadelphia): Dr. Hepp has given a very comprehensive analysis of the clinical use of the synthetic drug stilbestrol. This estrogenic hormone has recently received a great deal of attention in the literature. The clinical use of the drug has been favorably reported from many sources, and its use has been described by many clinicians. The author has described its clinical application in 10 different groups of patients, ranging from the infantile vulvovaginitis

group in infants to and including the menopausal disturbances.

Briefly, the use of stilbestrol in my hands has given highly satisfactory results, particularly in the inhibition and suppression of lactation in puerperal women. I have also had unusual success with it in the surgical menopause group. In the functional bleeding cases and the secondary amenorrhea group, it proved to be ineffective. In the physiologic menopausal syndrome, where hot flushes and many other associated symptoms were present, it was fairly active and gave moderately good results. Its use occasionally caused some toxic manifestations. Headache, nausea, and occasionally vomiting were the outstanding characteristics of its toxicity; consequently, where these symptoms were pronounced, its use was discontinued and other therapy administered for the relief of the patient.

These toxic symptoms were temporary in character and did not manifest any severe organic disturbance in liver or kidney function. In the administration of this synthetic estrogen, particularly in the puerperal lactating group, there have been no serious results in my cases. Although the number is far less than reported by Dr. Hepp in his presentation, my feelings as to the use of stilbestrol agree more or less with his.

I am impressed with the "suppression of lactation" group, and wonder if in subsequent pregnancies this may bring about some temporary or possibly permanent change in lactation. It is too early for me to give any definite opinion on this matter, but it is wise to keep it in mind.

Further investigation and clinical study will undoubtedly place stilbestrol among the therapeutic agents which are helpful in controlling a great many of the estrogen abnormalities. I am further impressed with its effectiveness when given by mouth, as it relieves the discomfort caused by hypodermic injections in individuals who require such therapy.

We are particularly grateful to Dr. Hepp in his preliminary report for segregating the types of cases and presenting them in groups where endocrine deficiencies or imbalance play an important rôle. I feel that we must not be carried away by the too enthusiastic biologic and endocrinologic reports of this drug. We should emphasize the results of its clinical use in those individuals in whom it has alleviated symptoms and in those others where it has been of little or no value.

AIRPLANE AMBULANCES

Modern warfare has impressed upon everyone the importance of morale. To us, it seems that this, even more than guns and man power, enables a nation of people to carry on determinedly in the preservation of its traditional way of life. No program for preparedness can afford to neglect the most minute detail that will aid in bolstering morale.

A wounded soldier is not the most cheerful of men. Yet this present war has shown that the airplane ambulance, with its rapid and comfortable transportation, has afforded great mental solace not only to the wounded but to the men still fighting, since they feel that every possible aid is being made available for the man in the ranks. The stretchers upon which the patients lie are easily reached from the center aisle. Pain due to transportation is almost completely elimi-

nated since there is practically no jarring. Furthermore, the space provided is more than ample to accommodate a good supply of sedatives, cardiac stimulants, dressings, splints, and even rubber bed pans for those with spinal injuries. It is also possible to install heating devices so as to lessen the susceptibility of the wounded to the infection of the upper part of the respiratory tract.

These advantages, among others, of the airplane ambulance have been emphasized by F. Schmidt. Perfection of this method of evacuation has as yet not been achieved, since the uncertainty of suitable take-off and landing fields causes a waste of time in loading and unloading. This, however, can be overcome. To a disabled soldier some 400 miles from home, there is nothing more heartening than to know that he can be home in less than 3 hours.—*New York State Journal of Medicine*.

Symptomatology of Diabetes

JOSEPH H. BARACH, M.D.

Pittsburgh, Pa.

DIABETES was one of the very first diseases to have been described in the medical literature of old. The Ebers Papyrus contains the description of a disease in which the kidneys excrete large amounts of fluid and in which there is a wasting of body substance. The Ebers Papyrus was written 3400 years ago. Insofar as medical history knows, the disease described was diabetes mellitus. Another interesting reference to diabetes mellitus in this connection is that of Geronimo Cardano who lived 1505 to 1576 A. D. He claimed that the diabetic patient excretes more fluid than he ingests. To prove his contention, Cardano reported the case of a girl of 18 who ingested 7 pounds of food and drink and excreted 36 pounds of urine in one day. Cardano was a famous Italian physician, but in 1940 A. D. we refer that case to Ripley. In its ordinary sense, the idea of a disease causing a continuously greater water output than intake of fluid is a clinical unreality; yet, in the literature of medicine, this idea was unchallenged for 1500 years. What is even more striking is that this idea survived the entire historical period of Greek culture in which everything was put to the yardstick, apparently everything but medicine. If these were examples of medical thinking of the past, one might well say that the symptomatology of diabetes got off to a bad start.

One finds great interest in reevaluating some of the classical symptoms of this disease, if he approaches the subject in the light of our present-day knowledge and with the available methods of study of our day. In this attempt, we will do well, first of all, to reiterate the 5 accepted classical symptoms—polyuria, polyphagia, polydipsia, loss of flesh, and loss of strength. I wish to challenge the validity of the so-called first symptom of diabetes mellitus, polyuria.

I do not wish to deny the occurrence of polyuria in diabetes mellitus, but I do challenge its importance and its position as the foremost clinical symptom of the disease or whether it

really is enough of a symptom of diabetes to warrant its position as one of the cardinal symptoms of the disease. If this surprises you, please let me say it was as much of a surprise to me when I found myself face to face with the facts.

A number of years ago we made studies of the water exchange in a group of 150 new diabetic cases as they came to the hospital for treatment. Our observations covered a period of 2 to 4 weeks. We divided this period into 2 phases—the “diabetic phase,” during which the patient was still overloaded with sugar and not yet under control, and the “nondiabetic phase,” during which the patient had already attained the sugar-normal state. If we assume that a patient whose 24-hour output amounts to 2500 c.c. or more is having polyuria, then our answer is that in this series of 150 cases of diabetes 18 per cent had polyuria at the height of their disease and 82 per cent did not have polyuria. Our findings also reveal that only 6 per cent of the group had a daily output of 3000 c.c. or more.

Our usual experience is that the patient is made sugar-free within a week of the time of entrance to the hospital, and that he is nearly sugar-normal during the second week in the hospital. If we compare the total volume of urine during the “diabetic week” with the daily volume during the so-called “nondiabetic week” at the hospital, we find that 70 per cent of the series had a greater urine output after they were rendered sugar-normal than when they were in the diabetic state.

Our studies also revealed that the same condition prevailed whether the patient was taking insulin or not. One-fifth of the patients taking insulin had a greater urine output during the “diabetic week,” while four-fifths did not. In the noninsulin cases, twice as many had a larger urine output during the “nondiabetic week” than during the first week in the hospital.

The whole problem of water elimination in the diabetic is an interesting and a very important one. If one studies the urine output in the diabetic from day to day, it will be frequently seen that within a day or two after the patient

TABLE I

Date	Diet			Insulin		Urinalysis			Blood Sugar	Average Daily Urine Output
	Carb.	Prot.	Fat	Kind	Dose	Volume c.c./24 hr.	Glucose Per Cent	Glucose Gm./24 hr.		
7-15-38	165	45	80	0		1600	2.7	43	235	Before diabetes was controlled 2450 c.c.
7-16-38				0		2300	2.2	51		
7-17-38				0		2900	2.4	70	268	
7-18-38				0		2600	2.5	65		
7-19-38				Pz	15	2800	2.9	81		
7-20-38				Pz	15	2500	1.5	38	286	After diabetes was controlled 3390 c.c.
7-21-38				Pz	18	3250	0.6	20		
7-22-38				Pz	22	3100	0.7	22	211	
7-23-38				Pz	26	3500	0.5	18		
7-24-38				Pz	26	3100	0.4	12	211	
7-25-38				Pz	30	2600	0.3	8		
7-26-38				Pz	30	3500	0.2	7	191	
7-27-38				Pz	34	3000	0.0	0		
7-28-38	165	45	80	Pz	34	2900	0.0	0	121	

becomes sugar-free a marked increase in the volume of urine will appear, lasting several days.

It would seem that just as soon as the diabetes is controlled, there is a marked improvement and restoration in the water elimination of the body. Further studies of our series of cases also revealed that there is no apparent relationship between the degree of hyperglycemia and volume output of urine. Whether or not the return of a more normal functioning of the pituitary gland plays a part in this improved water exchange following diabetic control is, as far as our studies go, a question that cannot be answered. Although we have noted that in diabetics who present clinical evidences suggestive of pituitary involvement, polyuria is more common.

Another factor to which we have given thought is that of the part played by high arterial pressure. It is commonly present in a certain number of cases in any large group of diabetics. Polyuria or nocturnal polyuria, of itself, is another phase of the disease of such patients, but that is independent of the diabetes.

Out of all this, our conclusion and the point I wish to make is that polyuria is not a cardinal symptom of diabetes and never should have been designated as such. Pollakiuria, frequency of urination, was reported by 75 per cent of our patients and I suspect that the physician of yesterday took the patient's word for the existence of polyuria. To a patient the frequent passing of urine may well be synonymous with the passing of a large amount of urine, but the physician should know the facts in the case; and because of all this, I call your attention to these observations for further consideration and verification.

On the whole, the common symptoms in a series of 355 diabetics, according to our records, occurred in the frequency shown in Table II.

TABLE II
SYMPTOMS IN 355 DIABETICS

Symptoms	Per Cent
Dry mouth	75
Pollakiuria	75
Polyphagia	66
Weakness	75
Pruritus	55
Falling hair and nails	45
Furuncles	35
Dyspnea	65
Palpitation	55
Cold extremities	45
Edema of extremities	40
Disturbed menses	35

Dry Mouth

By actual count, as many patients complain of thirst as they do of frequent urination. Many find that it is more comfortable for them to drink a small amount of water often than to take large amounts every time they do drink. Two explanations for this symptom have been offered. One is that when the blood sugar is high, additional water would tend to restore a normal concentration of the blood, comparable to the thirst which follows the taking of much salt. The other, and the one acceptable to us, is that certain alterations in the sense of taste during the diabetic state are responsible. Our observations having shown that there was no discoverable relationship between hyperglycemia and polyuria, it would therefore seem that the polydipsia of diabetes is more likely due to a neurogenic reflex on the gustatory cells of the tongue and mouth, such as we have noted in cases of diabetes insipidus. Patients with diabetes insipidus have told me that they experience a peculiar sensation of burning or dryness in an area in the hard or soft palate which can be relieved only by the repeated drinking of water.

This is confirmed by the studies of R. T. Bellows and W. P. Van Wagenen, who pro-

duced diabetes insipidus by injuring the pituitary region in dogs, and found that it was the fluid intake of the animal which governed the water output. When the water intake of the animals was restricted, they remained in water balance. When their thirst was completely satisfied, they gained in weight or became "obese" or waterlogged. This led the investigators to the conclusion that excessive thirst plays the leading rôle in diabetes insipidus and that the polyuria which follows is a response to the greater water intake.

Loss of Flesh

This is due in a large measure to loss of the water content of the tissues of the body. When it is realized that a man weighing 150 pounds carries about 90 pounds of water in his tissues, it is readily understood that water loss is accompanied by loss of weight. Of equal importance, insofar as loss of weight is concerned, is the faulty metabolism brought about by loss of sugar and the accompanying disturbances in absorption and assimilation of proteins and fats. Not all diabetics lose much weight, however, and many will be diabetic for a long time before loss of weight is manifest.

Loss of Strength

Muscular contraction and muscular movement depend upon proper utilization of muscle sugar, which in turn is directly dependent on proper assimilation and utilization of blood sugar. With this primary function in a disturbed state, it is readily seen how normal muscle function and therefore normal strength is interfered with and reduced. Another source of interference is the disturbed assimilation and utilization of lactic acid which is utilized by the muscles in each contraction. A faulty breaking down of lactic acid and a lag in the utilization and oxygenation of lactic acid is a cause of fatigue, muscle spasm or cramps, muscle pains, and other manifestations of disturbed function and strength.

Total Weight Loss

Loss of sugar deprives muscles of their natural fuel and renders them unable to perform their normal functions. Inability to utilize glucose leads to interference with normal utilization and storage of fats. Interference with normal fat metabolism induces further derangements, which not only undernourish the patient but

cause injury of the nervous system. With each of these changes, there is suggestive evidence of associated disturbances in the normal chemical balance and vitamin utilization. Thus a whole train of sequences follow one another, producing disequilibrium and vicious circles in the workings of the entire organism.

TABLE III
WEIGHT LOSS IN 872 DIABETICS

<i>Pounds Lost</i>	<i>No. of Cases</i>
None	55
1 to 20	76
21 to 40	328
41 to 60	147
61 to 80	52
81 to 100	14

Symptoms After the Patient Is Under Control

Once the early period of the patient's disease is past, the symptoms that appear from time to time are in the main those resulting from nutritional disturbances, those pertaining to the nervous system, the cardiovascular system, or those specifically due to peripheral vascular disease. It will be noted in Table II that approximately one-half of our patients complained of symptoms suggesting cardiovascular disease. Here it should be recalled that our patients, in the main, have passed middle life and are promising candidates for various degenerative disease processes, foremost of which is arteriosclerosis. Burning or coldness, tingling, numbness, or pains in the extremities are complaints that are common to involvement of both the peripheral nerves and peripheral vessels. The differential diagnosis of this is made by physical examination, noting the color of the extremity, its circulatory response to gravity, its temperature, and its nutritional state.

Conclusion

We call attention to the interest which may be found in a revaluation of the so-called cardinal symptoms of the disease, diabetes; that the polyuria of diabetes actually is an exceptional symptom rather than the first of the cardinal symptoms of the disease; that it is pollakiuria, frequent urination, which is common in diabetics; and we suggest that it would be profitable to evaluate all the symptoms of this disease in the same critical way.

Diabetic Coma (Ketosis)

GARFIELD G. DUNCAN, M.D.

Philadelphia, Pa.

COMA due to ketosis is a preventable and curable outcome of uncontrolled diabetes. It is an intoxication by accumulated products of the intermediate products of fat metabolism which occurs in patients who are unable to utilize carbohydrate. Fats are reduced only to the ketone or toxic stage. Acetone, diacetic acid, and later beta-oxybutyric acid appear in the urine. As the excretion of these acids fails to keep up with their production, they accumulate in the body and, barring treatment, cause diabetic coma and death.

Precipitating Causes of Diabetic Coma

Diabetic coma is precipitated by acute infections, omission of insulin, vomiting, diarrhea, neglect of the diabetes, surgical operations, pregnancy, and thyrotoxicosis.

Symptoms of Diabetic Ketosis

The symptoms of ketosis are variable. Any indisposition in a known diabetic should suggest the possibility of ketosis.

Gradual increasing fatigue, loss of appetite, dryness of mouth and thirst, polyuria, nausea, vomiting, abdominal pain, and drowsiness are typical symptoms. The progress of the disorder from its onset until coma ensues requires hours and indeed in some cases days. As the stupor deepens, air hunger becomes marked and an odor of acetone is noted on the breath.

In the presence of an acute infection or when a large amount of insulin is suddenly stopped, a patient with severe diabetes may become comatose within 12 hours.

Laboratory Data in Diabetic Coma

The chief laboratory findings in diabetic coma are:

1. Glycosuria.
2. Acetone, diacetic acid, and beta-hydroxybutyric acid in the urine.
3. Hyperglycemia—blood sugar usually between 400 and 800 mg. per 100 c.c.

4. Decreased carbon dioxide combining power of the blood, below 25 volumes per cent.

5. Positive Rothera-Wishart test for plasma acetone.

Other and probably less important laboratory findings in diabetic coma are: *Urine*.—Specific gravity of urine above 1.035, albuminuria, showers of hyaline and granular casts in the urine. *Blood*.—A high cholesterol value, above 250 mg. per 100 c.c., a lipemia, a low plasma sodium chloride concentration, a leukocytosis, and a retention of urea nitrogen.

Physical Examination

The physical examination reveals the following picture:

1. Patient appears desperately ill.
2. Cheeks flushed.
3. Marked dehydration—tissues dry, decreased intra-ocular tension, mucous membranes dry, and the blood pressure low.
4. Pulse rapid with decreased force.
5. Extremities cold and body temperature subnormal.
6. Complicating infection frequently found if searched for.

Prognosis

The prognosis is good if the patient is under age 40 and has not been in coma over 6 hours. It is bad if the patient is over age 40, if he has been in coma over 12 hours, if the blood pressure is below 50 mg. of Hg., if the CO₂ combining power of the blood is below 12 volumes per cent, if there is a marked elevation of the blood urea, and if there is a coexisting arteriosclerotic heart disease and a hyperglycemia of 1000 mg. per 100 c.c. or more.

Prevention of Diabetic Coma

To prevent diabetic coma, the following régime is suggested:

1. Diabetic coma will not develop while the diabetes is under control.
2. Examine the urine daily for sugar.
3. Never omit a dose of insulin because of

loss of appetite unless the urine at that time is free from sugar. It is safer to reduce the dose to one-half the usual amount.

4. Give appropriate increases in the amount of insulin during acute complications as roughly indicated by the amount of sugar appearing in the various fractions of urine.

Treatment of Diabetic Coma *

Insulin.—Sixty units of unmodified insulin or zinc insulin crystals in solution are given subcutaneously and 20 units may be given intravenously. Twenty or 30 units are given subcutaneously at hourly intervals (rarely at half-hour intervals) until the CO_2 combining power of the blood plasma has reached a relatively safe zone, above 30 volumes per cent, and the plasma acetone has disappeared or is reduced to minute amounts. Until this is accomplished the blood sugar level should be kept above 200 mg. per 100 c.c.

Smaller or greater amounts of insulin given less frequently may be indicated by varying degrees of insulin resistance.

After the CO_2 combining power has increased to 35 volumes per cent and the test for plasma acetone has become negative, insulin every 4 hours usually suffices.

An Alternate Insulin Régime.—In place of the plan of insulin administration outlined above, the following may be used:

The diagnosis of diabetic coma being confirmed, 100 units of protamine zinc insulin and 100 units of unmodified or zinc insulin crystals in solution are injected subcutaneously and at separate sites.

Frequently no further insulin is required for 6 hours, when 4-hour feedings and 4-hour injections of unmodified insulin are begun.

Calculations of the CO_2 combining power and blood sugar level every 3 or 4 hours will serve as indicators for additional insulin or carbohydrate as the case may be.

Carbohydrate.—Dextrose, 5 per cent solution, in normal saline may be given slowly (3 c.c. per minute) and continuously by venoclysis until the patient can take liquids by mouth (usually within 6 to 12 hours). Nourishment in liquid form—fruit juices, gruels, and sweetened drinks—is given in 6 equal amounts, one every 4 hours. Each feeding is preceded by an injection of insulin. Diet example: protein 60 Gm., carbohydrate 250 Gm., and fat 18 Gm. (1400 calories).

It is usually permissible after 48 hours of this régime, barring other acute complications, to divide the diet—liquid, soft, or normal as indicated—into 4 equal meals, one every 6 hours, and the insulin is similarly divided and spaced. After 24 to 48 hours the permanent diet of 3 meals with a bedtime nourishment is resumed and the unmodified insulin gradually replaced by protamine zinc insulin alone or combined with either unmodified or zinc insulin crystals in solution.

A morning dose (20 minutes before breakfast) of 40 to 80 units of protamine zinc insulin and a smaller dose, 10 to 20 units, of unmodified insulin are given. Subsequent increases or decreases in amounts and number of doses are regulated according to the fractional urinalyses and blood tests on alternate days for sugar.

NOTE: Impending coma is usually corrected by giving a single dose of protamine zinc insulin, 50 to 100 units, with 20 to 50 units of unmodified insulin. The latter is repeated in 8 hours if necessary.

Additional Measures:

1. Liquids and Chlorides. To aid further in correcting dehydration and chloride depletion, 1 liter of normal saline (warm) is given by hypodermoclysis. In addition to the chlorides given with the dextrose and the saline given by hypodermoclysis, if fluids are retained by mouth, 100 c.c. of beef bouillon (steero or oxo cubes or 3 teaspoonfuls of salt in 1 quart of broth are excellent), tea, coffee, lemonade, orangeade, and oatmeal gruel is given every hour.

2. Warmth and Rest. Blankets, hot water bottles, electric pad, and hot liquids should be employed. Warmth is important.

3. Gastric Lavage. If the patient complains of abdominal pain or if vomiting continues, the stomach is lavaged with normal saline. Eight ounces of the solution are left in the stomach.

4. Alkali. If the CO_2 combining power of the blood plasma is below 20 volumes per cent and the clinical condition of the patient appears critical, a single intravenous administration of sodium-r-lactate solution (warm) is given, the amount being that calculated to raise the CO_2 combining power to a safe level (35 to 45 volumes per cent).

5. Enema. A soap water enema (warm) is given early in the treatment.

6. Circulatory Stimulants. The usual cardiac stimulants are of little value. Epinephrine 0.5 c.c. (1:1000) given subcutaneously is helpful when the blood pressure is very low. This dose may be repeated if indicated. Correction of the

* The outline of treatment presented here is the same, except for a few minor changes, as recently advocated by Duncan, G. G., Fetter, F., Cuttle, T. D., and Durkin, J. K., *Bull. Ayer Clin. Lab.*, 3: 312, 1939.

dehydration is probably the most important circulatory support.

ABSTRACT OF DISCUSSION

HERBERT T. KELLY (Philadelphia): Dr. Duncan has clearly and concisely discussed most of the important known problems encountered in the medical management of one of the 2 diabetic emergencies, diabetic coma (the other one being the hypoglycemic syndrome).

Perhaps for clinical purposes, we should differentiate between the 2 terms "ketosis" and "coma." The latter constitutes a state in which the patient is unable to respond to any and all stimuli, whereas in ketosis he may be ambulatory. In coma the carbon dioxide combining power is below 20; in ketosis above 20. Accompanying the ketosis, due primarily to deficient carbohydrate oxidation and consequent deranged fat metabolism, especially when advanced, is decreased total salt concentration incident to polyuria, decreased intake, and vomiting. The changes are related not only to blood but to all extracellular body fluids. The cells are markedly affected by the self-destruction induced by the increased breakdown of body protein. Further sugar must first be phosphorylated in the process of yielding its energy and there is evidence that thiamin chloride, riboflavin, and nicotinic acid are essential.

Insulin causes a tremendous sudden increase in utilization of carbohydrate and a corresponding increase in vitamins. Therefore, unless adequate doses of vitamins are given, especially in the prevention and treatment of

diabetic ketosis with glucose parenterally and large doses of insulin, untoward results may occur. These are more apt to occur when the demand incident to thyrotoxicosis, hyperthermia with or without infection, increases likewise the demand of nutrilites in the diabetic with ketosis.

Recently, a juvenile diabetic, age 9, entered the hospital in coma with chemically recognizable chylolysis and nicotinic acid deficiency. With 200 units of insulin in 48 hours, both conditions were demonstrably aggravated. A basic diet and nicotinic acid brought about a disappearance of the deficiency disease in the next 7 days.

The detailed therapeutic régime outlined by Dr. Duncan is based largely on the conception of diabetes in the human being, a condition due to deficient insulin production. Therefore, the correction of ketosis is based on 2 definite scientific principles, the use of insulin and the replacement of fluid and salt. Most authorities agree that unmodified insulin or zinc insulin crystals in solution are preferable.

Irrespective of our increased understanding of the mechanisms of ketosis and its standard treatment under most favorable conditions, as Dr. Duncan has intimated, many of the patients still die, for reasons which in the present state of our knowledge remain unknown.

May I suggest, in closing, that the recent available knowledge of the physiology of vitamins in carbohydrate metabolism along with carbohydrate, sodium chloride, water, and insulin be considered in the various degrees of ketosis and coma.

CYCLOTRON AND DEANS' NIGHT

This eventful meeting was held in the auditorium of the Philadelphia County Medical Society on Wednesday, Jan. 15, at 8:30 p. m., and was preceded by dinner at 6:30 p. m.

It was a very happy social occasion that started the evening program with mirth and laughter, as though everyone was bent upon having a good time before "being blown to atoms."

The deans of all the local medical schools were the guests of the county society.

Edward L. Bortz, M.D., president of the Philadelphia County Medical Society, presided throughout the evening.

Profundity of thought consumed the greater part of the following scientific program:

"How the Cyclotron Works" was presented by Gaylord P. Harnwell, Ph.D., of the University of Pennsylvania.

"How the Products of the Cyclotron are Applied in Medical Problems" was presented by John H. Lawrence, M.D., University of California Medical School.

Eugene P. Pendergrass, M.D., University of Pennsylvania Medical School, was the commentator.

Below is a report of the meeting prepared by Steven M. Spencer, of the Philadelphia *Evening Bulletin*.

"Man-made radium substitutes which physicians can now administer like ordinary medicines go to specific organs and tissues as swiftly and unerringly as though carried by a model postman.

"Radioactive iodine, for example, goes to the thyroid gland and concentrates there at a rate 4000 times that in any other part of the body. Calcium is delivered

principally to the bone; phosphorus to the bone and teeth, etc.

"This high selective affinity, characteristic also of the plain nonradioactive substances but more easily and accurately measured in the case of these "tagged" atoms, has opened up a promising field in the treatment of various types of cancer, it was pointed out by John H. Lawrence, M.D., of the University of California Medical School. And it is also providing a fascinating new tool in the study of human and plant physiology.

"Dr. Lawrence participated in a program devoted to discussion of the cyclotron, the giant magnetic atom-smasher invented by his brother, Dr. Ernest O. Lawrence, also of the University of California and winner of the 1939 Nobel Prize in physics.

"It is in the high-speed stream of atomic particles spinning out of the cyclotron (the one now operating at Berkeley, Cal., develops 33,000,000 volts) that the chemicals are made radioactive. Since the radioactivity in most of the bombarded chemicals dies out in a few days or weeks, instead of several thousand years as in radium itself, these chemicals can be given safely by mouth or by vein to lay down a brief but oftentimes effective barrage of cancer-killing rays on malignant tissue in inaccessible parts of the body.

"Most widely applied radioactive medicine has been radiophosphorus in the treatment of leukemia, and Dr. Lawrence said that he and his associates had obtained encouraging results. Some of the patients have maintained a normal blood count and kept in good health for more than a year since the last treatment.

"Edward L. Bortz, M.D., introduced 2 guests from Lima, Peru, Dr. Lucas S. Molina, professor of gynecology at the University of Lima, and Dr. Jorge Diez Canseco, a specialist in internal medicine."

The Treatment of Trigeminal Neuralgia

STUART N. ROWE, M.D.
Pittsburgh, Pa.

IN dealing with trigeminal neuralgia, accurate diagnosis is of fundamental importance. After the diagnosis has been made, however, the patient is anxious to know how he can be relieved, what risks he must run to achieve this relief, and how certain or enduring his cure will be. This paper represents an effort to answer such questions on the basis of a review of 227 cases treated in The Landon Surgical Clinic, Pittsburgh, by Lyndon H. Landon, M.D., or by the author.

It should be stated at the outset that of the great variety of therapeutic measures proposed at one time or another as cures for tic douloureux, we regard only 3 as effective; namely, trichlorethylene inhalations, alcohol injections, and section of the nerve.

The successful use of vitamin B for trigeminal neuralgia has been reported recently. Doubtless judgment as to the efficacy of this treatment should be withheld until more time has elapsed, but in a small series of cases we have been unable to obtain any improvement by this method.

Inhalations of the volatile drug, trichlorethylene, have been tried in a considerable number of cases. There appears to be much individual variation in the response which it produces. A few patients are benefited temporarily and a very few over periods of months. The drug produces rather marked cerebral circulatory change and should be used lying down. Furthermore, it has to be employed regularly 3 to 4 times daily to obtain effect—not merely as a sedative each time a pain occurs.

The temporary interruption of peripheral branches of the fifth nerve by the injection of alcohol is the second method of treatment. It has the very considerable advantage of being rapid, usually entailing no hospitalization, and being free from any mortality. On the other hand, alcohol injections are a little less certain than operation, involve a good deal of pain, and are temporary.

Since nearly all of these injections were given to outpatients, the records are not as complete as might be desired. However, data on 156 injections were available (Table I). Of these, the second or maxillary division block was most frequent, with the infra-orbital, the mandibular, and the supra-orbital blocks following. As nearly as could be determined, 5 per cent of the injections failed to interrupt the nerve or relieve the pain; in the remainder the average period of relief was 11 months. It is well known that the longer injections are continued, the shorter the period of relief—a natural result of the accumulation of scar tissue about the nerve which is then poorly penetrated by the necrotizing solution.

Complications rarely attend alcohol injections, although they are not entirely absent. In this group, 2 patients showed partial facial paralysis lasting 12 to 24 hours, and one suffered a weakness of the sixth or abducens nerve which continued for 6 weeks before disappearing completely.

Two points concerning the relationship of injection and operation are of interest. It is apparent that nearly one-half of the patients in this series underwent the nerve block before being operated upon. On the other hand, most patients ultimately came to the major operation of section of the sensory root of the gasserian ganglion.

The simplest operation for trigeminal neuralgia is the avulsion of the peripheral branches, such as the supra-orbital or infra-orbital. However, these nerves regenerate with surprising rapidity and persistence, and the relief is not permanent. Six patients gave histories of having such operations elsewhere, and 2 were performed in this clinic; all of these patients came to the major operation later.

Nearly all of these were carried out through the subtemporal approach perfected by Frazier. In most patients the entire sensory root was sectioned, which doubtless accounts for the few (3) repetitions which were necessary. In most patients (79 per cent) the motor root was exposed and preserved. In one patient the root

Read before the Section on Surgery of The Medical Society of the State of Pennsylvania, Philadelphia Session, Oct. 1, 1940.
From The Landon Surgical Clinic, The Western Pennsylvania Hospital, Pittsburgh, Pa.

TABLE I
ALCOHOL INJECTIONS
(Total Number—156)

Supra-orbital	6%
Infra-orbital	20%
Maxillary	35%
Mandibular	10%
Average duration of pain relief when successful	11 months
Unsuccessful	5.1%

was sectioned by way of the posterior fossa, and in one the spinal tract was sectioned in the medulla. This last operation—proposed a few years ago by Sjöqvist—has the advantage of avoiding subjective numbness and paresthesias. It has the disadvantage of being less certain and of requiring a longer convalescence than the section of the root.

The operative mortality was 2.9 per cent. This was slightly higher than we had anticipated, but in view of the age group of the patients, it is still low for any sort of major surgical procedure. Cerebral vascular accidents were the most common cause of fatality, although in one case a cardiac failure seemed responsible.

The morbidity associated with operation was not severe. For the most part patients complained of some headache for 1 or 2 days, were out of bed in 4 to 5 days, and home in 7 to 8 days.

The most feared and most advertised (by patient and family physician only) complication of the operative treatment of trigeminal neuralgia is facial paralysis. Actually, it was very uncommon in this series, occurring in a marked degree in only 4 patients, or 1.9 per cent. Three additional instances of facial weaknesses which returned to normal quite rapidly were noted, making a total of 3.3 per cent. Yet because of this hazard many patients are advised and decide to suffer excruciating pain for months or years rather than be relieved by operation. Many still reach the neurosurgeon with the impression that most if not all operations for the disease are followed by a drooping of the face.

The risk of corneal ulcer is less well known to the patient as a rule, but is just as important to the surgeon. Among this group a total of 11 cases of keratitis (5.7 per cent) occurred. However, only 3 were sufficiently severe to leave vision-impairing scars on healing. It is significant that these 3 ulcers all occurred months after discharge from the hospital and were all greatly aggravated by the mistaken use of an eye patch. The corneal reflex, which normally keeps the lids closed under such a patch, being absent in these patients, the gauze rubbed di-

rectly on the cornea, with ill-fated results. Where the trouble was detected promptly and the lids closed with isinglass plaster or tarsorrhaphy, healing was rapid and complete.

Paresthesias—burning sensations, crawling feelings, pins and needles—were very bad in 4 instances. Others were troubled to a milder degree for a time. A few superficial wound infections occurred.

TABLE II
RESULTS OF OPERATION IN 202 PATIENTS

	<i>Cases Per Cent</i>	
Completely relieved of pain with one operation	198	98.1
Pain recurred in area supplied by uncut nerve, relieved by reoperation .	3	1.4
Tractotomy—marked but not complete relief	1	.05

Permanent relief from pain following operation occurred in 98.1 per cent of the patients (all but 4) (Table II). Three of these developed pain in the forehead after the first division portion of the root had been spared to preserve corneal innervation. The other, who underwent a tractotomy, occasionally suffered some third division pain, but not enough to require further therapy.

Finally, a group of 13 patients with bilateral trigeminal neuralgia offered special problems. Four were operated upon on both sides in this clinic. In another instance, a second side was done here after Dr. Frazier had previously (3 years before) sectioned the first root. Three patients required no therapy and an equal number had the pain on the second side controlled by alcohol injection.

Summary

1. The treatment given 227 patients suffering with trigeminal neuralgia is reviewed. This therapy included 156 alcohol injections and 212 operations.

2. Alcohol injections gave relief for an average period of 11 months. They were unsuccessful in 5 per cent and followed by transient complications in 1.9 per cent.

3. Section of the sensory root of the ganglion using the subtemporal route is regarded as the operation of choice in most cases.

4. Operation was accompanied by a mortality of 2.9 per cent, and followed by serious facial paralysis in 1.9 per cent, and keratitis which impaired vision in 1.9 per cent.

5. Paresthesias were very troublesome in 1.9 per cent of the patients.

6. Bilateral trigeminal pain occurred in approximately 6 per cent, but was successfully relieved by bilateral operation or operation and injection.

ABSTRACT OF DISCUSSION

FRITZ H. LEWY (Philadelphia): It may not be amiss to comment in a few words on the nonsurgical treatment of trigeminal neuralgia and its effect. Two methods have been mentioned in this paper. It may be interesting to remember how trichlorethylene got the reputation of being a good drug in trigeminal neuralgia.

During the last war it was found out while working with trichlorethylene in the ammunition industry that it had the effect of an anesthetic on the fifth nerve, and that led to the idea that this sort of anesthesia might be a good thing to be produced artificially. In fact, at that time there were some cases of trigeminal neuralgia that received benefit from its use. Then when trichlorethylene became more and more purified, it no longer had an anesthetic effect on trigeminal neuralgia. In other words, it was an impurity which gave the good results. In a fairly large series of cases in the past few years, in various clinics, it has been found that it does not block the trigeminal nerve and therefore obviously cannot be of any great help.

Now, as to thiamin treatment, as used in the Technological Institute at California, when we first heard of it we did not think it could be of any great help in trigeminal neuralgia cases. However, I have to admit that in quite a number of patients the effect is amazing.

And I think there are patients in whom the treatment with vitamin B₁ is justified.

I remember one old gentleman, operated upon 17 years ago, who was a bad operative risk at that time. He returned for treatment, having lost 15 pounds in weight from a recurrence of his trigeminal neuralgia, extending over a period of 2 months. He refused operation and his entire general condition did not permit of an operation, so we gave him this vitamin intravenously. He became free of his pain in 2 days. That was a year ago and he is still free of pain. This treatment, however, has some drawbacks, and one is that the slightest general upset—say one glass of beer—is sufficient to bring on new attacks, despite the continuation of vitamin B₁. The second objection is that you have to continue to administer this vitamin intravenously for the rest of the patient's life, certainly as long as there is any vestige of the pain.

I think the whole problem should be judged with a certain sense of proportion. We all realize that operation is a minor risk, as shown by Dr. Rowe's statistics, but if a patient has reasonable assurance that he can be free from pain by a minor operation, is that not better than daily medical treatment—intravenous injections by the physician—with the patient doomed to this existence for the rest of his life?

Our experience in the outpatient department of the University of Pennsylvania Hospital is that the majority of patients gradually come back, after having primarily rejected any operative procedure, and state that they are convinced after all that they cannot go on with medical treatment for the rest of their lives and prefer operation.

LEGITIMATE USES OF MARIHUANA ADD TO PROBLEM OF ITS CONTROL

The control of the highly dangerous use of marihuana as a drug is made difficult by the fact that there is a large variety of legitimate industrial uses for this plant, S. R. Winters, Washington, D. C., points out in the October issue of *Hygeia, The Health Magazine*.

The fibers of the plant, which is often referred to as hemp, are used legitimately by industries to manufacture rope, twines, hats, and paper. "The plant's long fibers are also used to make textiles and plastics," the author says, "but when the stalk is cut before the plant reaches maturity, little or no resin, from which the narcotic substance is made, has been able to develop. The seeds of the plant are used for bird foods; the oils obtained from the seeds are used in the preparation of pharmlcal emulsions, paints, varnishes, soap, and linoleum. The residue of the hempseed, after pressing, is used for both a livestock feed and a fertilizer.

"The variable potency and unpredictable effects of marihuana seriously limit its use for medical purposes, and physicians are generally agreed that it has no value in treatment which cannot be better replaced by other more reliable drugs; its use as a relief for neuralgia and as an aid in psychoanalysis is questionable."

While the abuse of marihuana by young people is probably not as prevalent as many accounts would indicate, the peculiar susceptibility of adolescents to the practice of smoking cigarets and the relatively low price of marihuana make this drug a menace to youth. Statistics show that most devotees are found in age groups

under 30 and that they have begun the habit by smoking.

"According to Moreau de Tours (1845)," Mr. Winters reports, "some of the psychic reactions of marihuana are intellectual excitement, dissociation of ideas, overexcitation and exaggeration of sensations, errors in judging time and space, fixation of ideas having suggestive origin in the outside world, emotional disturbances during which the addict loses self-control and may commit acts of violence, irresistible impulses, always of a suggestive origin, which may lead to suicide, and numerous illusions and hallucinations.

"The habit of drugs and crime go hand in hand. Prolonged use of large quantities of marihuana by habitués or a single large dose taken by the novice may cause criminally maniacal acts. Marihuana, frequently used by criminals to bolster courage, creates time and space illusions and destroys judgment of speed and distance."

FIVE PHYSICIANS SIGNED THE DECLARATION OF INDEPENDENCE

We doubt if one physician in 10,000 can name the entire five who signed this patriotic document. Not one in a hundred can name more than one member. We reproduce the 5 names in order that you may add them to your book of knowledge: Joshua Bartlett and Matthew Thornton from New Hampshire, Oliver Wolcott from Connecticut, Lyman Hall from Georgia, and Benjamin Rush from Pennsylvania.—*Illinois Medical Journal*.

ACUTE CHOLECYSTITIS

Summary of Experience in the Past 10 Years With Comparison and Discussion of Results by Immediate, Early, and Late Operation

JOHN L. ATLEE, M.D., and JOHN L. ATLEE, Jr., M.D.

Lancaster, Pa.

IN READING the surgical literature of the past 10 years eminent authorities can be found endorsing early or immediate or delayed operation. When these papers are analyzed, there appears to be confusion as to the definition of these terms. Few, if any, would operate on all cases of acute cholecystitis as quickly as they would on a perforated ulcer, or even a very acute appendicitis. To adhere strictly to "immediate operation" would mean operating without any real preparation. And to adhere to delayed operation, allowing every case to subside completely, is just about as tenable. This leaves most writers in the group advocating early operation, covering their minor differences of opinion under the term "adequate preparation." Apparently in the past 10 years there has been an increasing group in favor of the term "early operation" after sufficient preparation.

Usually the patient is first seen by the general practitioner or the internist. If this is shortly after the onset, it may be difficult to differentiate biliary colic and early acute cholecystitis. A careful history and clinical examination are of paramount importance. The type of preceding indigestion and the time of preceding attacks—frequently in the early morning hours—are indications of gallbladder difficulty. Effort dyspnea and anginal or substernal oppression may point to a coronary disturbance. Pain to the left, rapid pulse, and shock may mean a pancreatitis. An ulcer history and slow pulse point to a perforated ulcer. Whatever differential points are to be considered, if there is an indication of acute cholecystitis in fever, rapid pulse, leukocytosis, jaundice, or mass, the patient must be treated effectively for this condition. This means rest, relief of pain, fluids, carbohydrates, and preferably the use of a Levine or similar tube to keep the stomach empty. To continue with

morphine and symptomatic measures does lead these cases into perforations and local abscess formations. We cannot subscribe to the view that every case of acute cholecystitis will subside. Therefore, it behooves the physician who first sees the case to make the diagnosis and see that the proper therapy is instituted.

The surgeon should see the case as early as possible. Since the diagnosis rests largely on clinical findings and not so much on those of the laboratory, the best judgment as to the time for intervention is had when one has been familiar with the patient's course from the onset. Leukocytosis has been very variable in our experience. Possibly it may be 80 per cent accurate, but we have seen gangrenous gallbladders with counts of 8000. Fever is variable. Jaundice and rapid pulse are of serious prognostic import. A mass can often be felt. All of these factors go to make up a judgment as to what to do and when to do it—and that is the surgeon's responsibility. As in appendicitis, we cannot expect to find all of the cardinal signs in every case.

The surgical management of acute cholecystitis begins, we believe, with proper preparation as previously outlined. After this the question of anesthesia must be considered. The type of anesthesia preferred may vary, but it should be designed to protect a damaged liver in every way possible. Spinal anesthesia has its advocates, and we prefer it in good risks, not in obese

TABLE I
ACUTE CASES (1930-1940)

	Cases	Deaths
Immediate operation	16	0
Early operation	56	1
Delayed operation	121	14
	193	15

(During this period 843 cases of "chronic" cholecystitis were encountered, and 12 cases of probable acute cholecystitis were under medical management alone, with 2 deaths.)

TABLE II
MORTALITY AFTER CHOLECYSTECTOMY
(177 Cases—12 Deaths—6.8%)

Case 1.—Female, 63. Died 9 days after operation on seventh day of attack from myocardial failure. Acute necrotic cholecystitis. Necropsy.

Case 2.—Male, 48. Carcinoma of pancreas also present. Died 48 days after operation on fifth day of attack from lung abscess. Acute ulcerative cholecystitis. Necropsy.

Case 3.—Female, 56. Spinal anesthesia not effective. Nitrous oxide-oxygen-ether vapor. Gallbladder ruptured in removal. Death 36 hours later from peritonitis. Operation on third day of attack and 48 hours after admission. Acute ulcerative cholecystitis. Necropsy.

Case 4.—Female, 76. Died 8 days after operation on eighth day of attack from peritonitis. Acute suppurative cholecystitis. No necropsy.

Case 5.—Female, 80. Died 48 hours after operation on fourth day of attack from myocardial failure. Acute necrotic cholecystitis. Necropsy.

Case 6.—Female, 38. Died 48 hours after operation on fifth day of attack with high fever, rapid pulse ("liver death"?). Acute cholecystitis. No necropsy.

Case 7.—Female, 60. Died 9 days after operation on sixth day of attack from embolism. Phlegmonous cholecystitis. Necropsy.

Case 8.—Female, 68. Died 6 days after operation on seventh day of attack from myocardial failure. Acute cholecystitis. Necropsy.

Case 9.—Female, 63. Died 4 days after operation 12 hours after perforation on fourth day of attack. Peritonitis. Acute necrotic cholecystitis. Necropsy.

Case 10.—Male, 59. Died 23 days after operation. Operation on seventh day of acute attack. Coronary occlusion. Mild diabetes mellitus. Acute suppurative cholecystitis. No necropsy.

Case 11.—Female, 41. Attacks for one year. Died within 24 hours of acute attack of hepato-renal failure. Operation on fifth day, probably inadequately prepared. Necropsy.

Case 12.—Male, 69. Old coronary history. Died on eleventh day of pulmonary embolism. Operation on fifth day of attack. Acute ulcerative cholecystitis. Necropsy.

SUMMARY: Peritonitis	3
Lung abscess	1
Myocardial failure	3
Embolism	2
Coronary occlusion	1
Hepato-renal failure ...	2

12

patients or those with poor myocardial reserve. In the obese we are inclined to use ethylene with a small amount of ether vapor or cyclopropane. In very bad risks local anesthesia preparatory to simple drainage of a gallbladder may be the safest procedure. Usually a right rectus incision is made, although we have used subchondral and transverse incisions in obese individuals and in those with a cardio-respiratory weakness. Whenever feasible the gallbladder should be removed, as a drained gallbladder sooner or later gives trouble. Also, the risk of the second operation is

an added factor. As to the way the gallbladder is removed, the common duct and cystic artery must be visualized. This cannot always be done by removing it from below upward, and one should not hesitate to work from the fundus down. Frequently, this is an easy and practical solution to an otherwise difficult procedure. When

TABLE III
CHOLECYSTOSTOMY
(16 Cases—3 Deaths—18.8%)

Patient	Indication	Result
Case 1 Male, 71	Age, cardiac weakness	Recovery
Case 2 Female, 50	Acute pancreatitis	Recovery
Case 3 Male, 60	Perforation, free	Death
Case 4 Female, 47	Perforation, abscess	Recovery
Case 5 Female, 73	Age, cardiac weakness	Recovery
Case 6 Male, 79	Perforation, free	Recovery
Case 7 Male, 81	Age, cardiac weakness	Recovery
Case 8 Male, 80	Age, cardiac weakness	Recovery
Case 9 Male, 82	Age, cardiac weakness	Recovery
Case 10 Male, 76	Age, cardiac weakness	Recovery
Case 11 Male, 82	Age, cardiac weakness	Recovery
Case 12 Male, 63	Pulmonary infection	Death
Case 13 Female, 69	Age, arteriosclerosis	Recovery
Case 14 Male, 68	Coronary history	Death
Case 15 Male, 55	Acute pancreatitis	Recovery
Case 16 Female, 58	Pulmonary infection	Recovery

it was indicated by previous jaundice or palpable stones, we have not hesitated to explore the common duct. A grossly infected gallbladder fossa is not rationally sutured shut; it is better to drain with gauze exposed from a rubber-covered drain (Lahey) to the fossa. Often we have packed a fossa with gauze protected in turn by "cigarettes" which can readily be removed when they loosen about the ninth day. It must not be forgotten that cholecystostomy may be a life-saving procedure, and here we have used a large rubber tube surrounded by iodoform gauze, which is valuable by reason of rapidly forming a protective wall of adhesion. Usually, in any operation for acute cholecystitis, the displaced protecting wall of omentum can be brought back to cover the operative area, thus minimizing the spread of infection and keeping the small intestine at a distance.

In the past 10 years we have been influenced at times by the literature and by single experiences, but certain facts have been impressive. Sixteen of 193 patients with acute cholecystitis who were seen within 48 hours of onset were operated upon immediately with little or no preparation. It was felt that they had good liver reserve, and were essentially good risks. All of this small group did well. Fifty-six of the 193 patients seen within 48 hours of onset were operated upon with 24 to 36 hours of preparation. There was one death in the group. Of

TABLE IV
PERFORATION OF GALLBLADDER

		History	Procedure	Result
1. Perforation with Abscess:				
1. Male, 59	1 year repeated attacks;	2-day acute attack	Cholecystectomy	Recovery
2. Male, 57	7 years repeated attacks;	2-day acute attack	Cholecystectomy	Recovery
3. Female, 47	15 years repeated attacks;	7-day acute attack	Cholecystectomy	Recovery
4. Female, 52	4 years repeated attacks;	3-day acute attack	Cholecystectomy	Recovery
5. Male, 60	2 years repeated attacks;	8-day acute attack	Cholecystectomy	Recovery
6. Male, 63	33 days repeated attacks,	with fever	Cholecystectomy	Death
7. Female, 60	Attacks for years;	9-day acute attack	Cholecystectomy	Recovery
8. Female, 44	6 months repeated attacks;	12-day acute attack	Cholecystectomy	Recovery
9. Female, 77	Attacks for years;	4-day acute attack	Cholecystectomy (Carcinoma)	Operative recovery
10. Male, 49	Attacks for years;	5-day acute attack	Cholecystectomy	Recovery
11. Female, 63	Attacks for 7 years;	27-day acute attack	Cholecystectomy	Recovery
2. Free perforation:				
1. Male, 79	3 months repeated attacks;	2-day acute at- tack; operation 1½ hours after perforation (while under treatment)	Cholecystostomy	Recovery
2. Male, 60	2-3 years repeated attacks;	operation 16 hours after perforation	Cholecystostomy	Death
3. Female, 63	2 years repeated attacks;	operation 12 hours after perforation	Cholecystectomy	Death
4. Male, 57	2 years repeated attacks;	operation 6 hours after perforation (while under treatment)	Cholecystectomy	Recovery
3. Cholecystoduodenal fistula:				
1. Female, 56	"Attacks for years";	3-day acute attack	Cholecystectomy	Recovery
Associated Lesions				
		Cases	Result	
1. Gangrenous appendix		1	Recovery	
2. Common duct exploration		11	1 Death	
Débris	7			
Stones	4			
3. Pregnancy at 8 months		1	Recovery	
Pregnancy at 3 months		1	Recovery	
Pregnancy at 6 months		1	Recovery	

the 121 remaining cases, there were 11 deaths after cholecystectomy and 3 after cholecystostomy, as outlined in Table I.

Free perforations occur. We have had 4, and 2 of these occurred while the cases were under observation. Localized perforations were more common, there being 11 of them. It would seem perhaps that in a patient not growing worse it is safer to await localization, as there was only one death in these few cases.

There are cases that do not improve on any régime, and there were 22 of the 193 cases, or 12 per cent. These are the cases of high morbidity and mortality, where a low leukocyte count belies a gangrenous gallbladder. A high count is significant, but a low count appears to be about 85 per cent accurate. The absence of consistent correlation of the clinical and operative findings is a danger in the cases seen late by the surgeon.

This group is comparatively small for any statistical evaluation, and one or two fortunate or unfortunate occurrences would make a great difference in the percentages. However, the clinical impression is substantiated.

As to the microscopic picture, it does not always seem to follow that seen at operation. This

is because of the great amount of edema that occurs early in the cases of occlusion. Cases may be divided, as the factors of occlusion and vascular damage or of infection are uppermost, and we recognize in principle Andrews' classification as ideal. Many "empyemas" of the gallbladder are not acute cholecystitis, but are due to retention of calcium salts in the gallbladder. A modified classification has been more practical for us, and the cases may be grouped as in Tables V and VI. Probably another factor is that a section taken at one part of the gallbladder may show a different amount of ulceration or cellular infiltration than at another part.

With one exception it will be seen that the deaths occurred in the cases admitted late and with complications. The exception was a patient probably insufficiently prepared who developed hepatico-renal failure and died within 18 hours of operation with a rapid pulse and high fever. A necropsy was obtained in this case.

Summary

To prevent the morbidity and mortality in acute cholecystitis, it is our firm belief that the best results will be obtained by early consultation and co-operation between the general prac-

TABLE V
PATHOLOGY

Andrews' Classification

- A. Normal state of the gallbladder
Slight infiltration often seen; cholesterosis: presence or absence of stones (the presence of these signs formerly often led to a diagnosis of chronic cholecystitis)
- B. Reaction to acute obstruction of the cystic duct
Uncomplicated type (formerly called chronic cholecystitis)
Infective type (formerly called acute cholecystitis)
Empyema (?)
Type with vascular damage (formerly acute cholecystitis)
Mild cholecystitis
Ulcerative cholecystitis
Gangrenous cholecystitis
- C. Reaction to intermittent obstruction of the cystic duct
Normal condition between attacks
Persistent irritation (usually mild)
- D. Reaction to chronic obstruction of the cystic duct
Uncomplicated type (formerly called chronic cholecystitis)
Acute reinfection
Mild
Empyema (?)
Hydrops
- E. Reaction to obstruction of the common duct
Acute or recent type (dilated and thin-walled gallbladder)
Chronic type (shrunken and fibrosed gallbladder)
- F. Neoplasms

Suggested Classification

- A. Infective
 - 1. Acute
 - 2. Subacute
 - 3. Suppurative (phlegmonous)
- B. Vascular damage
 - 1. Acute ulcerative
 - 2. Subacute ulcerative
 - 3. Gangrenous

itioner or internist and the surgeon. An adequate preparation is an essential part of the surgical management. The patients (72) operated upon within 48 hours of onset of disease have done well; those operated upon later have had at times a morbid course and by necessity a high mortality rate.

TABLE VI
PATHOLOGY (MICROSCOPIC)

<i>Infective</i>	<i>Cases</i>	<i>Deaths</i>
Acute	45	3
Subacute	29	0
Suppurative	20	2
<i>Vascular damage</i>		
Acute ulcerative	32	2
Subacute ulcerative	30	1
Gangrenous	21	4
	177	12

Conclusions

- 1. Biliary colic with fever, increasing pulse, or continued local signs means acute cholecystitis until proven otherwise.
- 2. Such cases require close observation by both the internist and the surgeon.
- 3. The best results are had with early operation after sufficient preparation.
- 4. The greatest morbidity and mortality have occurred in the "delayed" cases which did not resolve.

ABSTRACT OF DISCUSSION

J. MONTGOMERY DEEVER (Philadelphia): Dr. Atlee has been very concise and clear in his classification of immediate, early, and late operation. This is a controversial subject, but in the past many of the writers and speakers have been rather vague in their interpretation of early and late operations.

I must disagree with Dr. Atlee somewhat in his advocacy of early operation in acute cholecystitis. I agree with him that all cases of acute cholecystitis do not subside, that is, a certain small percentage will go on to perforation or abscess formation. Every case of acute cholecystitis should be hospitalized. Operation as an emergency procedure is fraught with danger and has no place in the treatment of acute cholecystitis. The exception to this statement is the occasional acute surgical abdominal condition in which the correct diagnosis is not made until the peritoneum is opened.

Early operation as advocated by Dr. Atlee is the procedure of choice in those cases which neither subside nor visibly improve in the first 24 to 48 hours of conservative treatment. In other words, these are the cases in which we cannot be sure the pathologic condition is subsiding. Dr. Atlee's management of this type of case is ideal, but this group is no larger than 20 per cent of all cases of acute cholecystitis.

The large majority of cases when treated by conservative measures for 24 to 48 hours will subside to the complete satisfaction of the surgeon. This is the group in which early operation has been advocated. There is no doubt that competent surgeons can operate on such cases with satisfactory results, but I believe these patients can be given the advantage of a somewhat safer and certainly more thorough procedure if they are operated upon in the interval stage.

A certain number of these patients will require common duct exploration. (Lahey finds common duct stones in almost 20 per cent of his calculous cholecystitis cases.) The common duct can be explored in most cases of acute cholecystitis, but such exploration is more difficult and hence less satisfactory than in the quiescent phase. In addition, there will be cases where the inflammatory process is so marked that it prohibits any attempt to explore the common duct. The danger of attempting exploration in these cases is not the possibility of spreading infection, but of injuring other important structures.

I believe that early operation should be reserved for those cases of acute cholecystitis in which the surgeon fears that the pathologic process cannot be controlled by conservative treatment. When the acute process can be controlled by conservative treatment, operation in the interval stage will be safer and allow more satisfactory exploration of the common duct when indicated.

HOMOGENIZED MILK

A New Development in the Adaptation of Cow's Milk for Infant Feeding

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Philadelphia, Pa.

A RECENT development in the use of cow's milk for infant feeding has been the introduction by the fluid milk dealers of fresh homogenized milk. This product, still so new that not many physicians are familiar with its properties, is now generally available in most of the cities and towns of Pennsylvania.

Homogenized milk is milk whose butter fat particles have been shattered into tiny droplets which remain distributed homogeneously through the bottle. When properly processed the milk has a full rich flavor, yields a softer curd, and appears to be more easily digested than unmodified market milk. The treatment given to the milk is purely physical in character, resulting in poorly understood electrochemical changes at the fat-liquid interfaces which envelop the colloidal droplets of cream.

The butter fat in freshly drawn milk occurs in the form of individual droplets with diameters ranging from 22 microns to 0.1 micron. Their average size is quite variable, being dependent upon such factors as breed, month of lactation, and extent of agitation of the milk following milking. With market milks the differences are not noticeable, inasmuch as these are pooled milkings from many cows of every breed and in all stages of lactation. Speaking generally, the average diameter of the butter fat particles in mixed milks lies in the neighborhood of 4 microns, few of the particles being larger than 10 microns. Shaking of the milk throws the fat globules into repeated contact so that they more readily clump together.

These facts have an important bearing on the phenomenon of cream rise. Milk whose globules measure less than about 2.75 microns in diameter ordinarily does not show a visible cream line after 48 hours. When the average size is further reduced to one micron by mechanical treatment of the milk, analysis following centrifug-

ing will reveal only small differences between the fat content of the upper and lower layers. With fine dispersions particle clumping no longer takes place.

The history of homogenized milk dates back to 1899 when Gaulin patented an apparatus made up of a battery of fine capillary tubes through which milk could be passed. In 1902 the invention was improved by development of the so-called "high pressure" machine, still widely used, in which milk is forced by a powerful piston pump between 2 plane surfaces held in close apposition by a powerful spring. The stream of milk travels through this fine cleft at high velocity and then impinges on a baffle plate. These manipulations disperse the fat globule aggregates and break up the individual fat particles, multiplying the total surface area manyfold. The extent of the globule breakdown is proportional to the pressure used. Pressures between 2000 and 3000 pounds are employed in most dairy plants.

In another type of homogenizer, rotors resembling gears propel milk within a closed chamber so designed that mechanical vibrations are imparted to the milk in its passage. The stream flows out through a conical valve, pushing against a pressure of 750 to 1000 pounds.

The sound-wave or sonic apparatus homogenizes milk by use of intense sound waves. Looking like a huge telephone receiver with a double diaphragm, this equipment employs an electromagnetic oscillator of the kind used in submarine communication and echo depth sounding, modified by the addition of a heavy metal cover bolted to the margins of the main steel diaphragm. The gap between the steel surfaces is only one thirty-second of an inch. As the milk flows slowly between the plates, the sound vibrations break up the particle aggregates and shatter the great majority of the globules. These machines are simple in construction and operation, can be cleaned easily, and present few problems to the sanitary engi-

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neer. The fat globules are not as finely subdivided as are those of high pressure homogenized milk, but all tests, including clinical feeding trials, demonstrate a significant improvement over unprocessed milk.

Milk which has been homogenized coagulates quite differently from that which has not received such treatment. The present wave of interest in homogenized milk is based largely upon the mass of new information concerning its curdling properties.

In vitro measurement of curdling is customarily carried out with the curd tension test, somewhat modified from the form originated by Hill in 1923. In this test the milk is made to coagulate by adding to it a standard mixture of pepsin and weak hydrochloric acid. A special wheel-shaped knife is then forced through the stationary clot which forms. The resistance of the clot to the passage of the knife is its "curd tension." Values for pooled samples of Pennsylvania's raw milk have been observed to range between 40 and 70 Gm. in the winter, and between 30 and 50 Gm. during the summer.

Homogenization brings down the curd tension of milk. When the readings are down to 20 Gm. or less, the designation "Soft Curd Homogenized" is sometimes applied. With any one batch of milk the extent of the reduction, within limits, seems to be proportional to the degree of breaking up of the fat particles. The explanation of this phenomenon has not been entirely unraveled. Several factors seem to be interacting. A shell of protein molecules adheres to the surface of every fat globule; as the number of globules becomes multiplied, the number of protein molecules taken up by the fat surfaces becomes tremendously increased. These molecules, once adsorbed, apparently no longer enter into curd formation. Moreover, the myriads of tiny fat particles act as focal weak points, rendering the curd more delicate and friable. But the true mechanism is doubtless much more complex, being tied up with other properties of the adsorption "membranes" (L. S. Palmer).

Another helpful technic for studying milk curds, developed in our laboratory, consists of a series of rubber bags which hang in a water bath at body temperature. An oscillating platform imparts wave-like motion to milk placed in the bags. In such an artificial coagulation device one can simulate the conditions that go on in the baby's or the adult's stomach by adding proper amounts of pepsin and hydrochloric acid to milk. With this apparatus homogenized milk, properly processed, yields curds which are comparable in size to those from boiled milk.

The end results of homogenization upon curd characteristics depend on a number of factors, including the temperature of pasteurization, the duration of exposure to the pasteurizing heat, the pressure exerted within the machine, the state of mechanical efficiency of the machine parts, and the initial curd tension of the raw milk. Not all homogenized milks are alike. Destruction of the cream line does not necessarily result in a soft curd milk. The homogenization must be done thoroughly and efficiently.

Milk contains lipases which attack butter fat. These enzymes remain latent and inactive in unagitated raw milk, but become activated by homogenization. Since they are destroyed by adequate pasteurization, the use of pasteurization heat treatment becomes an integral step in homogenization. One of the good features of homogenized milk, therefore, is the necessity for pasteurization.

An extensive study on the feeding of homogenized milk with 840 normal infants was completed recently in Philadelphia. A preliminary report has been published (*Weekly Roster*, Philadelphia County Medical Society, Apr. 6, 1940) and will not be repeated here. Suffice it to say that milk pasteurized and homogenized under the conditions of the study proved to be as satisfactory for the feeding of healthy babies as was pasteurized milk boiled for 5 minutes in the home. The experimental milks were fed unboiled.

As measured by the curd tension test, the high pressure homogenized milk proved to give the lowest readings, ranging from 5 to 20 Gm. The low pressure homogenized milk and the sonized milk ranged between 10 and 30 Gm., with the former giving readings a little higher than those from the sonized product pasteurized at the same temperature. The raw milk ranged from 40 to 60 Gm. (surface resistance). Readings on the unboiled pasteurized milk were usually a few grams lower than on the raw milk; after boiling for 5 minutes the level fell to between 5 and 10 grams.

One of the important lessons learned was that with market milks of both A and B grades heating conditions more stringent than those customarily employed in pasteurization are necessary, or else the obtaining of a bottled product having a dependably low bacterial count cannot always be assured. Homogenized milks can be subjected to temperature of at least 150 F. or even higher for 30 minutes without producing a detectable heated flavor. This additional heat treatment (usual pasteurization conditions range from 142 to 145 F. for 30 minutes) serves to

keep the bacterial count well below 10,000 per c.c. and usually under 2000 per c.c.

The sanitary quality of homogenized milk ranks in equal importance with its curd quality. If homogenized milk is to be used for infant feeding without being boiled, not only must the curds become small and soft but the bacterial count must be kept at a constant low level.

Accordingly, all homogenized milks used for infant feeding without boiling must be so processed as to ensure the best obtainable product. The medical profession will have to work hand in hand with the dairy industry in the development of standards, regulations, and control, so that the ultimate consumer—the healthy bottled baby—receives absolute protection. Steps in this direction are being made in Philadelphia. Over the country as a whole the status of homogenized milk is not yet at a sufficiently high peak so that indiscriminate feeding of normal babies without boiling of the milk can be considered safe. Adequate standards must receive general adoption and recognition.

ABSTRACT OF DISCUSSION

ROBERT S. HEFFNER (Pottstown): The curdling of milk has been a subject of utmost importance and interest for a long time in our efforts to produce a safe milk formula for infant feeding. Homogenizing milk seems to solve many of these problems. However, certain questions arise in our minds which should be answered.

Milk has been homogenized since 1899. It seems to me in the period of 41 years this process should have received a little more impetus. Is there any standardization of this process? While many claims are made for homogenized milk, will they all meet the same requirements, particularly in regard to curd tension?

I had an opportunity to answer this question myself recently. I picked up a sample of homogenized milk in Philadelphia and I compared it under the microscope with another sample obtained in another town. There was a distinct difference.

Are the samples of homogenized milk equally valuable—those that are prepared with a low-pressure machine, a high-pressure machine, or by the sound wave machines? The extent to which the curd has been broken up and therefore softened by any process used seems to affect the value up to a certain point.

By comparing milk mixtures with varying curd sizes, it would appear that curds not exceeding approximately one-quarter inch are equally digestible in the stomach. I mean that the minute curds found in so-called milk soups appear to have no special advantage over those of any other mixture up to approximately one-quarter of an inch.

There are some apparent advantages in the use of homogenized milk. The taste of this milk is not objectionable or unpleasant in any way. As the milk is heated to a higher temperature before it is homogenized, it would necessarily be safer from a bacterial standpoint. These milk mixtures should also be easier to prepare, especially in the hands of an inexperienced

young mother, because they can be prepared without heating, and there would certainly be less danger of contamination. This should be an advantage over the preparation of, say, a lactic acid formula, with which some mothers have a great deal of difficulty.

It also seems logical to assume that homogenized milk would be valuable in treating elderly people, some convalescents, and individuals with certain gastro-intestinal disorders, particularly hypo-acidity. Therefore, the process of homogenizing milk can be accepted as a definite step forward in the preparation of milk formulas.

JACOB D. LEEBRON (Philadelphia): I should like Dr. Wolman to tell us if all evaporated milks are homogenized, and if there is any advantage in the use of evaporated milk over homogenized milk, or vice versa.

HARRY LOWENBURG, SR. (Philadelphia): There are one or two things I would like to point out. Homogenization of milk has been stated to be old. Maynard Ladd, of Boston, many years ago, processed a milk and studied some cases with the preparation he called homogenized milk, although his milk differed radically from that under discussion in that it contained olive instead of butter fat. He claimed good results with it. The fact that the idea dates back to 1899 and is only now being revived seems to indicate that we have gotten along pretty well up to now without it. This is a purely factual statement.

Second, there are many ways of handling curd tension. Years ago we used cereal waters as diluents to accomplish this or added various starches, as arrowroot flour or powdered flour ball, to the formula or we pancreatized (peptonized) it. Adding acid to milk, as dilute hydrochloric, lactic, or citric acid found in the citrus fruits, brings about low curd tension. Low curd tension is also found in buttermilk and in Finkelstein's albumin milk, etc. Simply boiling milk will reduce curd tension. Evaporated milk has a low-tension curd. Also in evaporated milk the fat globules are finely divided and there is no cream layer (homogenized). On the other hand, there are those who believe that the division of the fat globules into small uniform particles is of no advantage as far as aiding digestion is concerned.

Third, the medical profession should refrain from getting too enthusiastic about this particular homogenized milk because it is already being exploited commercially in a way which, to me, appears to be highly unethical. The milkman is already recommending it to mothers, advising them to use it regardless of whatever other milk or formula on which the baby may have been placed by the attending physician, and mothers, on this account, are asking for it and are recommending it to each other. Those who are manufacturing this product are intruding into the realm of the pediatrician in a most subtle way. They have already sent out notices that they have established a "Doctor-Patient" Service offering to "co-operate" with the pediatrician and requesting his support of such a plan.

The scientific workers who have developed the preparation are blameless and not responsible for the exploitation of the medical profession. They should, however, be extremely cautious not to assist in this effort unwittingly. The manufacturers are assuming the rôle of infant feeders and will do so to an even greater extent unless they are checked.

This method of homogenization is perhaps a step in advance even if it is dressing an old idea in new clothes.

It is not, however, the *conditio sine qua non* of infant feeding. Therefore, some control should be exercised over those who are developing the material commercially. It is not the last word and should not be made to appear that it is.

Finally, it is to be understood that these remarks are in no way intended to cast any reflection on the essayist whom I admire as an exceptionally able, conscientious, and promising scientific worker. I speak as an older man placing a protective arm around the shoulders of a younger colleague. I do not want his talents to be commercially exploited in a manner I know he would not want them to be.

I have been extremely upset by the manner in which the milk companies of Philadelphia are already approaching the pediatricians and also the lay public.

PERCIVAL NICHOLSON (Ardmore): I believe, as Dr. Wolman has stated, that it is very important to have definite standards for the homogenization of milk. This milk has a definite place in pediatric feeding, more especially in older children. I suggest that this section appoint Dr. Wolman or a committee in conjunction with him to set up standards to which homogenized milk would have to conform. If these standards would be adopted all over the state, we would have state-wide uniformity and high-grade homogenized milk. A number of milk companies are putting out poor homogenized milk at present. There is no standard by which good and poor homogenized milk can be distinguished.

As Dr. Lowenburg has said, homogenization of milk has been done for years. Of course, it was originally done commercially as a means of producing a uniform appearance in evaporated unsweetened milk, with no thought as to infant feeding. This processed milk produces the same type of curd, is absolutely sterile, is perfectly safe, and has certain other advantages over homogenization. As far as I am concerned, for the present at least I am going to stick to evaporated unsweetened milk as a basis for most infant feeding, but I think homogenized market milk has a place with the older child who dislikes the taste of evaporated milk. It ought to be under standard regulations, however.

DR. WOLMAN (in closing): The explanation for the slow popularization of homogenized milk is largely due to the fact that the machines themselves until recently were not highly sanitary. They have been used for a long time in the preparation of evaporated milk and of ice cream mixes, but with these substances heat treatment is applied to the product after homogenization.

Also, in the past, the process had been viewed with suspicion because of the possibility of adulteration.

Twenty years ago Dr. Ladd used a homogenized milk composed of skimmed milk and emulsified olive oil, and found the formula helpful in some difficult feeding cases.

The question was raised whether homogenized milk in which the particles are very small is superior for feeding to that in which the breakdown is not as complete. Apparently there is a threshold in the stomach for curds, as Dr. Heffner brought out. Once the curd size is brought down by homogenization, the importance of variations in their magnitude is problematic. A great many other factors enter into the determination of curd size and curd tension in addition to the fat particle breakdown.

Dr. Lowenburg's warning is pertinent and to the point. One cannot hear such cautions too often. As he was talking, I wished that every dairyman who prepares the product could be here to listen.

Standards seem essential. There is need for constructive co-operation between the dairy groups and the medical groups if this milk is to be used and advertised as having improved digestibility.

The question of evaporated milk versus homogenized milk is a difficult one. In the preparation of evaporated milk, the milk is first brought down to less than one-half its volume, then homogenized, then canned, and finally is autoclaved in the can. The heat treatment given during autoclaving is sufficient to kill all organisms present, including spore-bearers. The homogenized milks on the market have not been subjected to such strong heat or to evaporation, although they should receive a little more heat than is customary with ordinary pasteurization. Evaporated milk forms very fine curds in the stomach, remaining as a soupy liquid. There is the problem as to whether for normal infant feeding a milk which gives small curds is as good or not as good as one with no appreciable curds at all. Certainly evaporated milk has been proved to be highly digestible for infant feeding. In the study discussed here today homogenized milk was observed to be highly digestible also. The number of gastro-intestinal disturbances in our series were few, and the gains in weight and length were equal to those that have been reported with other kinds of accepted formulas.

One must conclude that the use of homogenized milk, properly processed, is another good way of feeding growing babies. How homogenized milk will work out with older children, convalescents, and elderly persons, as Dr. Heffner remarked, is for the future to determine.

FROM A PRESIDENT'S MESSAGE

There are 175,382 physicians in the United States. It is estimated that approximately 140,000 of this number are in private practice. Of these, the Directory of the American Medical Association lists 36,483 as limiting their practice to the various specialties. This would make the proportion of general practitioners to specialists 4 to 1.

Representation in the House of Delegates of the American Medical Association, on the other hand, is 2 to 1 in favor of specialists, and in Pennsylvania the proportion is 3 or 4 to 1. This is ascribed to various causes, the chief one probably being the general practitioner's apathy toward medical organization and society

meetings, and to the fact that specialists are usually good society men, for it is here they sell their wares to the general practitioner.

Probably the specialist represents the general practitioner with great fairness, but he may not be so acutely aware of the general practitioner's problems, since in the main they do not bother the specialist.

If the general practitioner wants to be heard, he should come out to the meetings and not be afraid to talk and let his views be known. He should have a "say" in the selection of delegates. He should at all times be a strong organization man. He should battle against ever having an inferiority complex.—*The Bulletin* (Lycoming County Medical Society).

EDITORIALS

THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of the federal government under which shall be co-ordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.

2. The allotment of such funds as Congress may make available to any state in actual need, for the prevention of disease, the promotion of health, and the care of the sick on proof of such need.

3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.

4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.

5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.

8. Expansion of public health and medical services consistent with the American system of democracy.

THE CYCLOTRON

The story of the rapid development of radiology made possible by the practical application of recent discoveries in modern physics is of itself nothing short of an absorbing romance. Physical science, through the startling discoveries of x-rays by Roentgen, the recognition of radioactivity by Becquerel, the discovery of radium by the Curies, the annunciation of the theory of relativity by Einstein, the artificial production of radioactivity by Joliot and Curie,

the discovery of heavy hydrogen by Urey et al., and the development of the cyclotron by Lawrence and his associates, is constantly providing medicine, and radiology in particular, with new tools to attack the problems of human suffering. Indeed, the dreams of the ancient alchemists who sought to turn base metal into gold have been surpassed, for the modern physicist with the cyclotron is now making something vastly more precious and useful; namely, the artificial radioactive substances.

The cyclotron is a relatively new instrument, and is essentially an atom-smashing machine. In the cyclotron, deuterons (which are heavy hydrogen nuclei) are accelerated to speeds equivalent to millions of volts and are then directed against targets of various elements, which are thus made radioactive.

The atom is an ultramicroscopic world which consists of a central nucleus or sun, around which there are electrons (planets or moons) which rotate around the central nucleus or sun. For years the classical physicist has known that the nucleus of the atom is composed of various combinations of protons and more recently neutrons rather intimately bound together. The physicist knew that the number and proportion of these positive charges in the nucleus determined whether the atom was one of gold or one of iron, or of some other element. They were not satisfied with this knowledge, however, as they wanted to know more. In order to learn more, it was necessary to break into the nucleus of the atom. The atom is very small, and it is surrounded by fields of force that are difficult to penetrate. Therefore, no ordinary weapon can be used.

In 1919 Lord Rutherford, the famous English physicist, found that if he bombarded nitrogen with alpha particles (helium nuclei which occur normally as a natural decay product of radium), oxygen was liberated. This was the first time anyone had ever been able to change one element into another. Subsequently physicists all over the world began to bombard elements with alpha particles and in doing so it was discovered that when one element was changed into another large amounts of subatomic energy were liberated. Most of this early work of bombarding atoms utilized alpha particles as projectiles; but Dr. Lawrence, who developed the cyclotron, was

not satisfied with such a source because the supply of the atomic bullets from radium was very small and entirely too expensive. The cyclotron, on the other hand, can create a much more abundant supply of atomic bullets which can be accelerated to tremendous speeds, thus making it possible to break into the atomic citadel.

In the beginning, the physicist's interest in the cyclotron was primarily one concerning pure physics; namely, the smashing of the atom and liberating the subatomic energy which it was hoped would some day be used in the place of electricity or steam as a source of power. However, it was soon found by Lawrence and his associates that his instrument would produce radioactive elements and an abundant stream of neutrons. These observations sent Lawrence and his associates on a detour into the medical and biologic fields. The radioactive elements do not differ chemically, nor do biologic systems differentiate them from their inactive relatives. Actually the emitted radiation labels these elements so that investigators are enabled to identify them specifically and follow them through the body. One can actually give a certain amount of a radioactive element, then determine its fate, including absorption, distribution, and excretion.

The neutron (electrically neutral particles) rays are produced by bombarding an element such as beryllium in the cyclotron with deuterons. Neutrons are of medical and biologic interest because they produce ionization of tissue about 100 times that produced by 1000 kilovolt roentgen rays or gamma rays of radium. Likewise, the neutrons affect bacteria, cause sterility, and at present are being utilized in the treatment of malignancy.

It is too early to state with any assurance just what one is to expect from the radioactive elements and the neutron radiation. Early investigations, however, are encouraging. Radioactive phosphorus is being used in the treatment of leukemias and other conditions such as lymphoblastoma and bone malignancy. Radioactive iodine is being used in the study and treatment of thyroid dysfunction. Neutron radiation is being used in the treatment of deep-seated as well as superficial malignancy.

The discovery of the cyclotron and its products by Dr. E. O. Lawrence and his associates has provided medicine, biology, and physics with agents that should revolutionize our knowledge of the structure of the world and everything that lives in it. Medicine owes them a debt of gratitude.

TRIBUTE TO PHYSICIANS ET AL.

No doubt many physicians have read but a single paragraph of the following under the familiar caption "Tribute to a Physician" by Robert Louis Stevenson. In order that JOURNAL readers may refresh their acquaintance with all of the words thus expressed by this widely recognized American writer, who suffered and died following a prolonged illness, which expanded his acquaintance with foreign climes, and with "sailors, shepherds, artists," and professionals, we reproduce this tribute in full climaxed as it is by an accolade to an individual.

These lines appear as Stevenson's dedication to his book of poems "Underwoods" published in 1887 by Charles Scribner's Sons of New York.

There are men and classes of men that stand above the common herd; the soldier, the sailor, and the shepherd not infrequently; the artist rarely; rarer still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only remembered to be marveled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practice an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Herculean cheerfulness and courage. So it is that he brings air and cheer into the sick room, and often enough, though not so often as he wishes, brings healing.

Gratitude is but a lame sentiment; thanks, when they are expressed, are often more embarrassing than welcome; and yet I must set forth mine to a few out of many doctors who have brought me comfort and help: to Dr. Willey of San Francisco, whose kindness to a stranger it must be as grateful to him, as it is touching to me, to remember; to Dr. Karl Ruedi of Davos, the good genius of the English in his frosty mountains; to Dr. Herbert of Paris, whom I knew only for a week, and to Dr. Caisot of Montpellier, whom I knew only for ten days, and who have yet written their names deeply in my memory; to Dr. Brandt of Royat; to Dr. Wakefield of Nice; to Dr. Chepmell, whose visits make it a pleasure to be ill; to Dr. Horace Dobell, so wise in counsel; to Sir Andrew Clark, so unwearied in kindness; and to that wise youth, my uncle, Dr. Balfour.

I forget as many as I remember; and I ask both to pardon me, these for silence, those for inadequate speech. But one name I have kept on purpose to the last, because it is a household word with me, and because if I had not received favors from so many hands and in so many quarters of the world, it should have stood upon this page alone: that of my friend, Thomas Bodley Scott of Bournemouth. Will he accept this, although shared among so many, for a dedication to himself? and when next my ill-fortune (which has thus its pleasant side) brings him hurrying to me when he would fain sit down to meat or lie down to rest, will he care to remember that he takes this trouble for one who is not fool enough to be ungrateful?

THE AMERICAN JOURNAL OF SURGERY

(Fiftieth Anniversary)

The American Journal of Surgery, with the January, 1941, number, is celebrating its fiftieth anniversary. THE PENNSYLVANIA MEDICAL JOURNAL extends congratulations to its very capable editor, Thurston Scott Welton, M.D., who has been editor since 1928, to the associate editors, and to the contributors on this gala occasion.

Editor Welton has contributed a "Fiftieth Birthday" editorial, in which he states that "The Journal was first published in 1891 at Kansas City, Mo. At that time it was called the *American Journal of Surgery and Gynecology*. Fourteen years later the name was changed to its present title."

The editorial gives an informative and entertaining résumé. Editor Welton has been asked on what basis an article is accepted, and states that "Perhaps it is an editorial sixth sense." If an article has a good practical point in diagnosis, treatment, or technic, it is believed worthy of

publication. Above all they want their journal to be a helpful one.

A number of the subscribers to the *American Journal of Surgery* have been subscribers for many years. "For instance, John B. Lowman, M.D., of Johnstown, Pa., has been a subscriber for 40 years." In this anniversary issue are photographs and accompanying biographies of more than 50 associate editors.

The original articles are priceless, for the contributors have given in full measure. Fifty years are something to conjure with, and naturally one who has been invited to prepare a contribution for a 50-year celebration would throw his heart and soul into it, as has been amply demonstrated on this occasion.

The following Pennsylvanians participated: "Some of the Developments in Radiology During the Past 45 Years," by Eugene P. Pendergrass, M.D., professor of radiology, University of Pennsylvania School of Medicine, Philadelphia, and "Certification of Specialists by the American Boards," by Paul Titus, M.D., secretary of the American Board of Obstetrics and Gynecology and of the Advisory Board for Medical Specialties, Pittsburgh.

THE PENNSYLVANIA HEALTH INSTITUTE

The first Pennsylvania Health Institute, held in Harrisburg on Jan. 8, 9, and 10, brought eminent authorities together for the discussion of more than a score of subjects vital to public health.

Sponsored by the Pennsylvania Department of Health and 10 co-operating agencies, the 3-day assembly had as its theme, "Public Health—The Key to National Defense."

The institute was the State Health Department's first major educational activity of the year. Capacity audiences comprising representatives of the medical and dental professions, public health field workers, and representatives of social welfare organizations attended the lectures.

The sessions were held in the Penn-Harris Hotel.

The members and guests of the institute were welcomed by Alexander H. Stewart, M.D., Deputy Secretary of Health. He introduced the State Secretary of Health, John J. Shaw, M.D., first speaker on the program.

State Health Department

Dr. Shaw's subject was "The Role of the Department of Health, Organized Medicine, Local Departments of Health, and the Voluntary Agencies in a Modern Health Plan."

For such a plan to succeed in any state, said Dr. Shaw, that state must become public-health-minded. To produce this attitude on the part of the public, it is essential that the state department take into its confidence and co-operation at all times every agency, big and small, needed in carrying out and making effective the program or programs, the State Secretary of Health declared.

"If that is not done," he asserted, "it is a piecemeal program; it is puny health, and the result must be only fair. If the public knows what you intend to do, and if it is made clear to them what you are striving to do for their individual benefit, my experience has been that they are for that program 100 per cent."

The outstanding progress during the past 2 years of Pennsylvania's pneumonia, tuberculosis, and maternal and child health programs was cited by Dr. Shaw as resulting from the combined co-operation of the State Health Department, the U. S. Public Health Service at Washington, The Medical Society of the State of Pennsylvania, and lay organizations.

Dr. Shaw urged support of proposed legislation to place employees of his department under civil service, calling the plan "a tremendous move in the right direction for better public health."

Co-operative Practitioners

Francis F. Borzell, M.D., president of The Medical Society of the State of Pennsylvania, told the institute that "the broad objective of better community health calls for a co-ordinated, harmonious alliance between practitioners and the representatives of all public health agencies."

He added: "A new day has arrived in the field of medicine in Pennsylvania. At no time have more cordial relations and mutual respect been present than exist at the present time with health officials and the physicians in practice, neither mistrustful of the other, working hand in hand."

U. S. Public Health Service

"The Federal Government and Community Health" was discussed by E. Richard Coffey, M.D., surgeon, and assistant chief of the Domestic Quarantine Division,

U. S. Public Health Service. He said the federal government's efforts to uncover and control disease is re-doubling to the general welfare of the communities and the personal welfare of their people.

Dr. Coffey contended that the federal government is not administering community health activities, but that legislation permitting the Public Health Service to assist the states "puts all the research, all the epidemiologic findings, all the latest public health technics into action and makes the federal government effective—at long distance, but vitally—in improving the health of the members of the communities."

Warnings Against Neglect

Howard L. Russell, State Secretary of Public Assistance, advised health leaders to give more serious consideration to the indigent. Many people, he said, can afford a local physician's care, but they will not be restored to good health without costly specialized care, which in the majority of cases is beyond their means.

Objectives of the dental health program were presented by F. C. Cady, D.D.S., M.P.H., senior dental surgeon, U. S. Public Health Service, in a discussion of the question, "Is Dental Caries a Public Health Problem?"

The disease was described as a definite public health problem that offers a challenge to present methods of public health practice.

"A large majority of the country's entire child population is crippled by dental caries and its effects," Dr. Cady declared. He advocated care of initial carious lesions which may develop during a given year to reduce the magnitude of the problem. The speaker also urged school administrators and teachers and health department personnel to collaborate in interesting the school child and his parents in the welfare of his teeth to the extent that the child will be motivated to seek the means of protecting them.

Arthur M. Dewees, executive secretary, Pennsylvania Tuberculosis Society, enumerated wide advances made in community health and sanitation in the past half a century.

"Where there is sincere and whole-hearted co-operation between the official agency, the medical profession, and the voluntary health organization, and co-ordination of all the community services, best results are being secured," he said. "This co-ordination is particularly needed today as we bend our energies and use our resources in the national defense program."

Ruth R. Hubbard, R.N., director of the Visiting Nurse Association, speaking on "The Role of the Nurse in the Health and Welfare Field," said:

"Four functions of the public health nurse are care of the sick, education for health of individuals or groups, assistance to individuals or families in securing other help (in health or welfare), and participation in planning community health."

Industrial Hygiene

Arthur J. Vorwald, M.D., of the Saranac Laboratory, speaking on "The Public Health Aspects of Industrial Hygiene," said:

"The public health aspects of industrial hygiene involve in general 2 principles—sanitation and safety—as they pertain to the worker, the family, the community, and the nation. These principles are especially important today because of our national defense effort.

"In the State of Pennsylvania alone, Fulton's studies disclose that there exist 138,184 potential exposures to inorganic nonmetallic dusts in 16,000 plants other than

coal mining. From these studies it is obvious that efficient industrial hygiene demands primarily a strong program of clinical investigation supported by experimental research, not only to determine the hazards attending a given industrial activity but to provide ways and means for preventing that hazard and to find therapeutic measures for relief of the disease produced by that hazard."

Lewis N. Clark, managing director of the Germantown Dispensary and Hospital, discussed "The Role of the Hospital in a Community Health Program." He said:

"The community hospital should have adequate space and equipment for diagnostic procedures and health examinations, and the best physicians of the community should be gathered together in an organized staff to provide the leadership for an educational health program.

"But we must face the fact today that such institutions are in poor financial shape. The income from endowments is shrinking, partly because of lower interest rates, but more because the moneys left hospitals as legacies are being rapidly expended to meet deficits. The increase in state aid is not keeping pace with the shrinkage of income from other sources. If they are to fulfill their function as leaders of community health programs for the benefit of all the people, these hospitals must be supported by tax moneys provided by the federal government."

Handicapped Children

James R. Martin, M.D., professor of orthopedic surgery, Jefferson Medical College, spoke on "The Crippled Child." He said:

"Pennsylvania's plan for the care and treatment of crippled children can become the most efficient in our country, but this alone is still not enough. The real necessity, at present, is to place more emphasis on the conditions of life that produce the cripple.

"The general improvement of living conditions, such as housing, sanitation, sufficient nourishing food, fresh air, and sunlight—all these are problems in our state which are gradually being solved and which have a direct bearing upon the invalids and cripples of the future."

General Charles R. Reynolds, M.D., director of the Bureau of Tuberculosis Control, Pennsylvania Department of Health, spoke on "The Relationship of the Tuberculosis Program to the School Child," saying:

"Studies throughout the United States tell us that the rate of active tuberculosis even in high school students is much lower than in adults. It would thus appear that better results will be obtained by eradicating tuberculosis in adults from whom childhood tuberculosis comes and from whom school children generally acquire their reinfection.

"The active positive sputum case is the source of all tuberculosis. Every such case should be hospitalized or managed hygienically. The source of every case should be determined and contacts examined. This is the responsibility of the attending physician. The medical profession has paid too much attention to the clinical aspects of tuberculosis and not enough to its epidemiology. The success of a tuberculosis program will be reflected in the health of school children, and it depends largely on co-operation by the medical profession."

Marjorie M. Heseltine, consultant in nutrition, Children's Bureau, U. S. Department of Labor, Washington, D. C., spoke on "Nutrition and the Health of Mothers and Children." She said:

"Recent nation-wide surveys have shown that Americans are not being fed as well as they might be. Public health nurses must carry a large share of the educational program in nutrition, both because they are the largest group and because they have a unique opportunity to individualize their teaching and to continue it over a sufficiently long period of time to produce results.

"The physician and the dentist who see mothers and children in health conferences, in school examinations, and in their private offices can hardly escape giving instruction in food and nutrition if they are to render maximum service."

Ira V. Hiscock, Sc.D., professor of public health, Yale University, said:

"Public health is a purchasable commodity and expenditures for a carefully planned health program, executed by trained workers, yield large dividends.

"The basis of satisfactory public health work in any community is a well-organized health department, adequately financed and staffed with trained personnel. The department should have the co-operation of local physicians, dentists, nurses, social workers, and teachers, and the support of an understanding public."

Ralph M. Tyson, M.D., pediatrician, Pennsylvania Hospital, Philadelphia, and chairman of the Committee on Pediatric Education of The Medical Society of the State of Pennsylvania, said:

"What we must stress in making health appraisals of children, if we can hope to be effective, is a consideration of the child as a whole and, perhaps best of all, repeated periodic checkups to watch his growth and development. Any method of health appraisal of children that does not include a study of mental development, emotional life, family background and heritage, as well as environment, will be incomplete and in many cases really valueless.

"The work of the physician in the schools has grown up in so many places as a minor adjunct of school programs or as a neglected part of public health that it has often not been given the serious consideration it deserves. It must not be forgotten, however, that our highest standards of medical and health supervision for all children cannot be achieved by any simple legislative or administrative reform. When the school medical service allows the school authorities and the public to believe they are providing real health supervision by offering a rapid medical inspection of each child in school every year, then they nullify every educational effort toward the ideal of optimal health service. In our own state we have allowed a hasty medical judgment or only partial inspection of the child to become firmly entrenched."

Venereal Diseases

Raymond A. Vonderlehr, M.D., assistant surgeon general, Division of Venereal Diseases, U. S. Public Health Service, spoke on "The Relationship of the Venereal Disease Program to the Community and School," saying that the control of syphilis and gonorrhea can be realized only through a comprehensive public health program.

Pointing out that for the fiscal year 1940-41 there were more than 487,464 cases of syphilis in the country, Dr. Vonderlehr said:

"If the infection is to be prevented from spreading, states and cities of over 500,000 population must put their control activities under the guidance of full-time, trained health officers. Diagnostic and treatment facilities must be available to all infected people for emergency use, to all patients referred by private phy-

sicians, and to all patients unable to afford private medical care."

Because syphilis has such a high attack rate among young people in schools, teachers have a responsibility for giving them adequate information about the venereal diseases, the speaker said. He added: "How this task is to be done is for trained educators to decide. Co-operation of health authorities is important, and co-ordination of the educational and health forces has been productive already of significant developments. During the past year a preliminary survey has been made in 30 states in which active programs of venereal disease control have been reported by health departments and educational institutions."

Health Education

Mary P. Connolly, director, Division of Health Education, Detroit Department of Health, presented "The Organization of a Health Education Program."

She advised leaders of a health education program to:

1. Correlate vital statistics with an intimate knowledge of their community's people and their environment. The findings should then be presented to the local medical society for its interpretation.

2. Meet persons who influence public opinion and those who help promote civic welfare.

3. Seek the advice and support of the press, the clergy, school administrators, social work groups, the Legion, business and service clubs, and women's clubs and organizations.

4. Form the contacts made form a health education committee, or a council of professional and lay members.

5. Provide newspapers with suitable copy. Study requirements of the press for newsworthy items.

6. Promote the health education program through schools and parent-teachers' associations represented on the committee.

7. Arrange for speakers, supply professional advice and counsel, use the radio, printed matter, posters, reports, and exhibits in promotion activities.

8. Obtain free pamphlets for distribution from federal and state government sources and insurance companies.

National Physical Fitness

Nathan B. Van Etten, M.D., president of the American Medical Association, was guest of honor at a luncheon of the institute on its closing day, Jan. 10. He spoke on "American Medicine Organizes for National Defense."

Recounting the major part members of the association are playing in aiding the country's military preparations, Dr. Van Etten said:

"Questionnaires were sent to 175,000 physicians by the War Department last June to discover how willing, how qualified, and how loyal they may be. The immediate response of more than 138,000 physicians justifies the traditional devotion of the medical profession to the public service. The Committee on Preparedness is building the skeletal fabric for effective service in every state, not only for active field service but for service on draft boards and for protection of civilians at home. The profession will be ready when called for.

"Physical fitness must be recognized as an important step toward national fitness. Fifty-two per cent of Americans are said to be physically competent for hard work. This level must be raised if our medical futures are to be viewed with satisfaction."

Dr. Van Etten said it was safe to assume that more than 3 million of the unemployed are physically unfit and that one out of every 3 men called for the draft will be ineligible because of physical disabilities.

Careful annual examination of every school child and training for physical fitness throughout its school life and the promotion of health through intelligent nutrition and sanitary housing were declared "more elemental defenses than guns or tanks or planes" by Dr. Van Etten.

Selective Eugenics

Herbert C. Woolley, M.D., superintendent of the Philadelphia State Hospital, discussing "The Deficient and Mentally Ill Child," estimated that there are approximately 11,000 mental defectives in Pennsylvania requiring institutional care, treatment, and supervision.

These cases were defined as congenital feeble-minded who are not insane or of unsound mind to such an extent as to require commitment to an asylum. Less than 50 per cent of the total cited are being provided for, according to Dr. Woolley, because the state's 3 institutions for this type of patient do not have the capacity for the job.

Dr. Woolley's solution was "additional facilities operated under full state care and full state control, independent of the local political organization." He warned: "At the present time we are increasing our problems in the neglect of the feeble-minded, especially the moron and highly imbecile groups, who, because of lack of institutional training and supervision, are becoming defective delinquents."

Selective eugenics was suggested by the speaker as offering hope for reducing the extent of the problem in coming generations "as the rights and privileges of the individual give way to the dominance of government."

Arthur Parker Hitchens, M.D., professor of public health and preventive medicine, University of Pennsylvania, said:

"Rather than be greeted by fantastic architecture when he goes to the schools, the friendly physician would like to find simply designed buildings with plenty of window area, good lighting (both natural and artificial), provision for safety, and abundant play areas. There must be facilities which make possible the routine practice of the health principles that are taught. There should be no contradiction between routine operation of the school and the hygienic principles taught in the classroom.

"A recent development which is not yet ready for general installation, but which holds great promise and which every person interested in school health should watch with great interest, is the control of epidemics of respiratory infections by the use of ultraviolet lights. The disinfection of air in classrooms and auditoriums by bactericidal light rays will produce marked reductions in absence from school and handicaps which often follow infections."

LaMonier Smith, M.D., director of School Health Service, Dept. 1, Pittsburgh Public Schools, spoke on "Educational Adjustments to a Modern Health Program."

In a survey of Pittsburgh's 140,000 school children, at least 100,000 were found to be abnormal in some particular. A few of the common abnormalities are septic tonsils and adenoid growths, defective teeth, defective hearing, defective vision, and malnutrition. At least 50,000 of these children are in urgent need of dental, medical, or surgical treatment.

Two of the greatest drawbacks to public health are (1) the lack of money to care for the indigent child and (2) the lack of proper dispensary services for them.

The Institute Banquet was held on Thursday night, Jan. 9.

Heil Keystone State

Arthur T. McCormack, M.D., Kentucky State Health Commissioner, said: "Pennsylvania has the best hospital system and the best medical organization in the United States. I am envious of the tremendous job you are doing. It is greater than the job of training an army.

"Many states have knowledge of health subjects, but our knowledge doesn't do us a bit of good unless we send it into homes where it can do some good. We must get everyone thinking along the line of building health in a democracy."

Governor Arthur H. James said: "Just as we are the Keystone State in other respects, so we are going to be the keystone state in health work."

William W. Bauer, M.D., director of the Bureau of Health Education, American Medical Association, said: "The most dangerous thing is to have people getting the wrong impressions as to cures and causes of diseases."

Abandon Ivory Tower

John M. McCullough, of the *Philadelphia Inquirer*, speaking on "Health Is News," said:

"Newspapers and the medical profession must bear the joint responsibility in making the public health-minded through education. By some device the reporter must be made to appreciate the terrible responsibility imposed upon him as the interpreter of health news. He must make a fetish of accuracy. From the senior editor down, journalism must divest itself of sensationalism for sensationalism's sake, and confine itself to the permissible dramatization of important health developments.

"For its part, the medical profession must climb out of its ivory tower and work at the job of making public health news understandable. I am almost persuaded that some professional men actually don't know the plain English synonyms for the medical terms they juggle so glibly. At least they avoid them like the plague. I have listened to some addresses on medical subjects ostensibly for public consumption—and it is no wonder the public honored them in absentia. Reading a few Chinatown restaurant signs would be just about as enlightening."

Walter F. Donaldson, M.D., secretary of The Medical Society of the State of Pennsylvania, led the discussion of the papers at the opening of the institute on Wednesday morning, Jan. 8. He praised Dr. Shaw and Mrs. Edna M. Kech and her co-workers in the Department of Health's Division of Health Education "for their foresight and wisdom in dedicating the first Pennsylvania Health Institute to national defense."

W. J. Robinson, D.D.S., president of the Pennsylvania State Dental Society, presided at the afternoon session on the first day. FRANCIS F. BORZELL, M.D.

"FIRSTS" REPORTED

This issue of the *Journal* contains carefully prepared reports more than merely indicative of the general character of the purposes and accomplishments of two newly organized movements recently holding their first meetings with carefully planned programs.

The *Journal*, as the official publication of The Medical Society of the State of Pennsylvania, traditionally and specifically calls attention to the reports (see page 741, also page 757) since they represent movements beneficial to the health of the people of the Keystone State.

NURSING AND THE NATIONAL DEFENSE PROGRAM

Catherine Ammerman Bell, R.N.,
and
Mrs. Katherine Miller, R.N.

Every woman today is asking what she can do for her country. There is no more fortunate woman than the registered nurse, for she has the preparation and experience which enables her to render a service that will be one of the first in demand in an emergency.

The National Defense Program includes a complete inventory of the nurse strength of the country. More than 6500 nurses will be in active service in the Army and other government nursing services by the end of the year, and at least 10,000 other nurses will be needed to take their places and meet the nursing needs of the civilian population of the country. Many are now being called for active service, and it is estimated that from 800 to 1000 nurses from this area will be needed for Indiantown Gap and Camp Meade by the Spring of 1941. As the industrial program expands and more men are employed, more industrial nurses will be needed. The calls for specially prepared nurses for public health and hospital positions are greater than the supply of this highly qualified group.

Questionnaires are being sent to approximately 50,000 registered nurses in Pennsylvania to learn if they are active or inactive, what kind of nursing service they are prepared to render, and if they will be available for service, if needed, on either a full-time or part-time basis. Answering the questionnaire does not obligate the nurse to compulsory military service, but does indicate that the profession is mobilizing for the emergency.

How does the situation today compare with that in 1917, and will there be a shortage of nurses now, as then?

In 1917 there were 66,107 registered nurses in the United States; over 33,000 were in active service, either at home or abroad, and around 3000 of this group came from Pennsylvania. Today the membership of the American Nurses' Association numbers over 161,000 registered nurses for the entire country. There are around 35,000 actively registered nurses in Pennsylvania, and about 20,000 that are inactive or retired, but who might be available for either part-time or full-time service in an emergency. There are 120 accredited schools of nursing in this state with a total enrollment of over 8300 students, and enrollment has increased about 10 per cent in the past year.

Various social and economic factors affect nursing. Changes in population affect the kinds of nurses needed and their distribution. People are moving into smaller or rural areas and more nurses will be needed who can work in these areas, assisting with an educational program of health and providing nursing care in the homes and hospitals. Increased enrollment in group hospitalization has meant increased demand in hospital services, especially in the maternity and surgical departments. This means less calls for nursing care in the home and an increased number of nurses in hospitals. As a result of the Social Security program, health services have been expanded and more public health nurses are needed. Since 1931 there has been an increase of 20 per cent in the number of nurses employed by official agencies and there is a definite trend for public health work to be taken over by government agencies.

There are means of estimating the approximate number of nurses required to meet the nursing needs of the

commonwealth in both homes and institutions, and it would seem that sufficient nursing care will be available for the civil and military population if we are able to mobilize all the registered nurses who can possibly render service and if we can realize our plans to attract enough well-prepared young people to the nursing profession.

Anticipation of a probable shortage of nurses, a need for persons in institutions to perform various nonnursing functions, and a seeming trend to create employment for the large number of young women in the N.Y.A. and WPA fields have resulted in various plans to present short courses in nursing duties. Nursing organizations view this situation with apprehension, for when the war and the emergency situation is over there may be a vast number of partially prepared people projected into the country. The nursing organization is logically concerned with all nursing matters and looks forward to a proposed legislative program that will license all who nurse for profit, thereby assuring the public that whatever kind of nursing care is needed will be given by those who have met certain minimum requirements.

1941 JOHN PHILLIPS MEMORIAL AWARD

On the recommendation of the Committee on Fellowships and Awards, the Board of Regents of the American College of Physicians, by unanimous resolution, has voted that the John Phillips Memorial Medal for 1941 be awarded to William Christopher Stadie, M.D., associate professor of research medicine at the University of Pennsylvania, Philadelphia, for his significant contributions to the knowledge of anoxia, cyanosis, and the physical chemistry of hemoglobin, and more especially for his recent studies on the subject of fat metabolism in diabetes mellitus.

This award was established by the college on Oct. 27, 1929, to be given periodically for some outstanding piece of work in internal medicine. Internal medicine in this instance is interpreted to include not only clinical science but all of those subjects which have a direct bearing upon the advancement of clinical science. The work must have been done in whole or in part in the United States or in Canada.

Nominations for the award are made to the Committee on Fellowships and Awards of the American College of Physicians. The recipient must file with the college a written account of his work and present his results as a paper before the next annual session, at which time the award of a bronze medal is made by the president of the college.

WHY SALT WATER WON'T QUENCH THIRST

In answer to an inquiry as to why human beings cannot exist on salt water used to quench their thirst, *Hygieia, The Health Magazine* explains: "The body fluids contain about 1 per cent salt. Sea water contains about 3 times as much salt of various kinds. When a fluid with a high salt content is taken into the mouth, it extracts water from the tissues and the blood stream. The dryness in the linings of the mouth and throat and the sensation of thirst are therefore increased."

Deaths from Selected Causes in Pennsylvania

November, 1940

County	All Causes, Excluding Stillbirths	Still- births	Infant Deaths	Maternal Deaths	Cancer	Cerebral Hemor- rhage	Heart Disease	Nephritis	Pneu- monia	Tuber- culosis
Adams	36	1	5	1	2	3	15	7	2	0
Allegheny*	1242	62	94	2	132	93	353	94	62	53
Armstrong	68	2	12	0	4	6	20	4	4	1
Beaver	98	6	6	0	13	11	25	12	3	4
Bedford	42	2	4	0	8	2	14	4	0	0
Berks*	222	13	22	0	24	23	71	16	8	5
Blair	106	6	15	2	8	8	37	8	1	2
Bradford	65	4	6	0	6	5	22	4	2	2
Bucks	81	3	7	2	6	7	28	9	2	0
Butler	61	2	2	0	5	10	21	5	4	1
Cambria*	171	8	20	1	14	10	54	11	18	2
Cameron	6	0	0	0	0	0	4	0	0	0
Carbon	37	4	3	0	7	3	13	2	4	0
Centre*	50	3	9	0	8	1	18	3	8	0
Chester*	113	3	7	1	15	10	37	8	3	3
Clarion	32	0	7	0	3	3	9	3	2	0
Clearfield	58	4	15	0	3	5	16	4	4	0
Clinton	30	0	5	0	4	4	9	2	3	0
Columbia	41	5	0	0	2	2	18	4	3	0
Crawford	88	1	6	0	17	5	24	7	5	1
Cumberland	59	3	4	0	8	8	19	5	2	1
Dauphin*	178	12	10	2	25	8	57	16	6	3
Delaware	182	5	14	1	23	17	67	10	2	3
Elk	19	1	5	0	3	0	5	5	0	0
Erie*	185	10	14	0	25	15	56	15	9	10
Fayette	167	6	25	0	15	15	44	9	12	0
Forest	4	0	0	0	0	0	0	0	3	0
Franklin*	51	3	4	0	0	1	19	7	2	1
Fulton	6	1	0	0	0	1	3	0	0	0
Greene	40	3	5	0	1	1	10	6	4	0
Huntingdon	52	4	6	0	7	3	15	4	0	0
Indiana	66	1	17	0	1	6	24	4	4	0
Jefferson	38	4	5	0	5	2	9	4	2	3
Juniata	17	0	0	0	1	0	3	2	0	0
Laekawanna	289	21	30	0	25	12	87	26	10	21
Laneaster	197	4	20	0	23	15	58	19	10	3
Lawrence	94	1	5	0	7	9	26	5	6	2
Lebanon	58	2	4	0	9	5	19	3	2	1
Lehigh*	180	13	16	1	21	9	53	12	5	4
Luzerne	384	15	28	4	43	19	124	36	17	13
Lycoming	91	3	6	1	5	4	38	6	0	3
McKean	43	3	1	0	9	3	15	4	2	0
Mereer	94	5	7	3	11	4	25	4	4	1
Mifflin	48	1	7	0	7	4	13	5	1	0
Monroe	34	1	4	0	2	4	11	2	1	1
Montgomery*	216	8	11	1	32	21	80	17	4	9
Montour*	25	3	3	0	3	1	9	1	1	1
Northampton	129	3	4	0	19	13	40	7	7	3
Northumberland	104	3	11	0	10	6	35	12	4	4
Perry	15	1	0	0	3	2	3	2	0	1
Philadelphia*	1683	54	77	4	254	135	546	141	61	77
Pike	8	0	0	0	0	1	1	3	0	0
Potter	19	2	4	0	2	0	9	0	1	0
Schuylkill	210	9	15	2	18	11	65	24	8	8
Snyder*	15	1	0	0	1	5	3	3	0	0
Somerset	63	4	7	0	8	8	19	6	4	3
Sullivan	7	1	0	0	0	0	2	1	0	0
Susquehanna	35	0	2	0	2	5	13	2	3	0
Tioga	35	1	2	0	3	4	11	6	1	1
Union	20	0	1	0	2	1	8	3	0	0
Venango*	64	2	7	0	7	3	25	4	4	0
Warren*	43	2	4	0	7	3	12	1	2	1
Washington	159	10	20	1	14	16	46	3	7	2
Wayne	34	0	3	0	2	5	10	3	3	0
Westmoreland*	227	14	19	1	17	26	78	12	18	5
Wyoming	19	0	1	0	6	2	3	1	1	1
York	149	13	6	0	16	14	44	10	9	5
Institutions	171	0	0	0	7	7	31	6	10	51
State total	8678	382	679	30	990	665	2701	684	390	316

* Exclusive of deaths in state and federal institutions.

TUBERCULOSIS ABSTRACTS

A Review for Physicians

PREPARED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

Published through the co-operation of the Pennsylvania Tuberculosis Society
and The Medical Society of the State of Pennsylvania

METHODS for finding cases of tuberculosis have not yet been reduced to a standardized pattern. Experience has prompted certain changes, and practical considerations make it necessary to eliminate wasteful methods. Pressed by the need for economy some workers now place almost sole reliance on the roentgen ray and seem ready to discard the tuberculin test as a selective screen. Among those who feel that the tuberculin test is still of great importance is J. Arthur Myers. In his paper "Tuberculosis in Students" he delineates a conception of tuberculosis which some may not accept in practice but which furnishes food for thought. Space permits here only an abstract of the discussion on the tuberculin test.

IMPORTANCE OF THE TUBERCULIN TEST

Ten years ago, to say a student had tuberculosis really meant that he had consumption. It was the tuberculosis diagnosed by the ancient Chinese, Babylonians, Greeks, and all since their time. A more recent and more logical conception of tuberculosis is that it begins when the first neutrophil phagocytizes a tubercle bacillus and the outcome depends upon subsequent physiologic events. From 3 to 7 weeks after tubercle formation begins, the tissues are sensitized to the protein fraction of the tubercle bacillus and apparently remain so as long as tubercle bacilli are alive in the body. This sensitivity is determined by the tuberculin test. The tubercles may be microscopic in size and there is no way of determining in a given individual whether clinical tuberculosis will ever make its appearance. Since the body is seeded with tubercle bacilli, clinical lesions may appear at any time and in almost any place. Therefore, all who react to tuberculin have tuberculosis.

The acceptance of this conception is imperative, says the author, because it is the only conception that will lead us to the control of the disease. Normal appearance and normal roentgen-ray shadows in a positive reactor do not justify us in looking lightly upon the condition. Inspection of the chest does not include all of the lung and some lesions may be too small to

cast shadows. Moreover, clinical tuberculous lesions may develop in many parts of the body other than the lung.

"Even if we could be certain that in the tuberculin reactors there are at the moment no lesions except those of the primary complexes, we have no way of determining what minute acute or chronic clinical lesions will develop or where they will be located. The reactor whose complete examination is negative today may have tuberculous meningitis, miliary disease, tuberculous pneumonia, peritonitis, pleurisy with effusion, or synovitis tomorrow."

Chronic clinical tuberculosis is essentially a disease of adults—it only begins to get into its stride in the college and university age period. Therefore, we find only a small percentage of tuberculin reactors with chronic, clinical tuberculous lesions during their few student years, yet it is of great importance that their disease be detected before it becomes contagious.

"Occasionally one asks why it would not be better to omit the tuberculin test and proceed directly to the roentgen-ray film inspection of the chest, since the occasional person has spoken of this inspection as the best case-finding method. No student of tuberculosis could be satisfied with such a procedure because the roentgen-ray film examination is totally inadequate in deter-

mining the true tuberculosis situation in any student body. Such examination is limited to a small part of the body; indeed, it does not include more than 75 per cent of the lungs themselves. Moreover, it reveals evidence only of gross lesions and does not differentiate these with reference to etiology, tuberculous or non-tuberculous. We divide pathology into gross and microscopic for teaching and practical purposes. The roentgen ray reveals only the gross. For example, among those who have primary tuberculosis complexes in the body, the roentgen-ray film of the chest reveals evidence of their presence in only approximately 10 to 15 per cent. The student of tuberculosis demands something far more delicate than the roentgen-ray film and he finds it in the tuberculin test.

"It would be as futile to try to control tuberculosis without the tuberculin test as to try to control syphilis without the Wassermann or an equally good test. At the University of Minnesota we have in the neighborhood of 4500 entering students each year and the tuberculin test indicates that approximately 1000 of them have the first-infection type of tuberculosis somewhere in their bodies; that is, primary tuberculosis complexes have been established, and to us the tuberculin reaction means that living tubercle bacilli are present. Among our reactors, only 100 to 150 present any evidence that might be interpreted as representing the primary tuberculosis complex on the roentgen-ray film of the chest. Of the entire 1000, rarely more than 10 to 15 have, at the moment, lesions in the lungs which cast shadows that might be due to the clinical form of pulmonary tuberculosis. Thus, if we depended entirely on the roentgen-ray film examination, we would overlook 85 per cent or more of the students who actually have tuberculous lesions in their bodies. Each of the 1000 students who reacts to the tuberculin test is a potential clinical case of tuberculosis some time in life and in the occasional one this form of the disease will actually occur while in school. Therefore, we feel that this group of 1000 students should be listed and observed from year to year for clinical tuberculosis, just as one lists those who have not been immunized against

smallpox or diphtheria as the susceptible in case of an outbreak of one of these diseases on the campus."

Experience in eradicating tuberculosis in cattle justifies our faith in the tuberculin test. "The veterinarians of this country have made more than 217,000,000 tuberculin tests on cattle between 1917 and 1939. The carcasses of more than 3,700,000 reactors were examined post mortem, and the accuracy with which the test selected those with tuberculous lesions was little short of miraculous. Indeed, it was only through the tuberculin test as the detective that tuberculosis has been almost eradicated from the cattle herds of this nation."

Of course, no tuberculosis program is complete that stops with the tuberculin test. Reactors should have a chest roentgen-ray examination, preferably by film inspection, though the fluoroscope in the hands of an expert may equal the film inspection. Those students with shadows of lesions must be examined in considerable detail and in those with shadows that persist, laboratory examinations, including the search for tubercle bacilli in the gastric contents, must be made.

In answer to the question: "Must students contract tuberculosis while in college?" the author answers: "No, because we have at our command accurate methods of screening out contagious cases of tuberculosis in any group. Therefore, if we keep students under sufficiently close observation, it is with great rarity that one will enter with contagious disease or will develop it on the campus so as to disseminate it to other students. Thus, the students may be prevented from contracting tuberculosis from one another. . . . It is true that the occasional student will become infected through contact with a contagious case entirely apart from the campus. However, in most parts of this country such infections have been reduced to one per cent or less per year. Therefore, few students become infected even in this manner while they are in college."

Tuberculosis in Students, by J. Arthur Myers, M.D., *Amer. Rev. of Tuberc.*, February, 1941.



OFFICERS' DEPARTMENT

WALTER F. DONALDSON, *Secretary*

8104 Jenkins Arcade

Pittsburgh, Pa.

PREPAREDNESS IN PENNSYLVANIA

Terms of an agreement for close co-operation of the Department of Public Assistance and County Assistance Boards with Pennsylvania's 422 local Selective Service Boards were announced Jan. 24, 1941, by Secretary of Public Assistance Howard L. Russell.

The plan, which will extend and make uniform co-operative working arrangements already developed in many localities, was agreed upon at a recent meeting between Secretary Russell and the State Director for Selective Service, Dr. William Mather Lewis. Briefly, the plan provides:

1. County Boards of Assistance will furnish local Selective Service Boards, on request, information needed in deciding on the selection or deferment of any unattached person or family member who is receiving or who at any past time has received public assistance.

2. The information will be limited to facts or verification of facts regarding dependency or economic status as it affects the prospective selectee.

3. Information will be determined from local assistance records, brought up to date, and supplemented by field investigation whenever necessary.

4. Under no circumstances will County Assistance Boards or their employees express judgment as to whether or not a person under consideration shall be selected or deferred. This is solely the function of the local Selective Service Board.

5. Where investigation of Selective Service registrants requires contacts with residents of other counties, the County Assistance Board in the county where the registrant lives will arrange for the necessary out-of-county contacts through the Assistance Boards in those counties. Out-of-state contacts necessary to completion of an investigation will be arranged, on a similar basis, through welfare agencies in other states.

6. For the present, local Selective Service Boards will be responsible for investigations of registrants who are unknown to County Assistance Boards as past or current assistance recipients, although provision has been made for modifying this rule by agreement between the State Selective Service headquarters and the Department of Public Assistance, if need develops.

HAVING FAILED IN EUROPE, WHY SUCCEED IN AMERICA?

Why do American socialists insist that the European failure—compulsory sickness insurance—will be a success in the United States?

Much has appeared in *THE PENNSYLVANIA MEDICAL JOURNAL* and the *Journal of the American Medical Association* in support of that which the organized medical profession believes to be for the best interests of the public instead of the adoption of this proposed decadent, centralized European method of solving our nation's unmet medical needs.

Recently there has been plenty of evidence in the newspapers and certain national magazines of the fact that in the Federal Congress and in the various state legislatures, including that of Pennsylvania, compulsory sickness insurance legislation will appear in 1941, this time under the all-inclusive aegis of national defense. Largely, it is being falsely connected by socially minded enthusiasts with physical findings resulting in 20 to 25 per cent rejections of Army and Navy applicants. Inasmuch as most of these rejections do not spring from illnesses but are due to defective teeth or eyes, overweight, underweight, rheumatic hearts, and flat feet, it is quite evident to the physician that compulsory sickness insurance will never reduce such types of physical impairment.

Continuous and consistent information to the

public remains a responsibility of the individual members of the medical profession.

To those who desire to contribute to the instruction of persons beyond their own acquaintanceship, we suggest a donation to the National Physicians' Committee—a group outside the American Medical Association. The current president of The Medical Society of the State of Pennsylvania, Francis F. Borzell, M.D., of Philadelphia, and 2 former presidents of the A. M. A. are trustees of the National Physicians' Committee (NPC).

The committee suggests a 3-cents-a-day contribution, totaling \$10.95 for the year 1941, to be sent to the Treasurer, National Physicians' Committee, Pittsfield Building, Chicago, Ill.

LOCAL MECHANISM MEETS LOCAL NEEDS

The Platform of the American Medical Association, which may be found on page 739 of this issue of the JOURNAL, and which is also printed weekly in the *Journal of the A. M. A.*, wisely recommends in paragraphs 3, 4, and 5 the following:

The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.

The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.

The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

A relatively small demonstration of the possibilities of this method is well exemplified in Allegheny County where the President's Brace Fund Committee of the Allegheny County Medical Society (active since 1935) in the year 1940 authorized an expenditure for braces of over \$2500 and authorized equipment orders for hospitals of over \$3300. In addition, the Allegheny County Chapter of the National Foundation made a grant of \$1000 for an investigation on the epidemiology of infantile paralysis as cases are reported in the City of Pittsburgh and in Allegheny County. This amount has been placed with the University of Pittsburgh, subject to requisition of funds as needed by a special Committee on Poliomyelitis Research of the Allegheny County Medical Society.

The "Brace Fund," of course, has its origin in the proceeds of the Annual President's Birth-

day Ball, the proceeds of which are shared equally between the local group and the National Foundation.

This wise policy readily adaptable to the control of many other sickness problems from the field of pediatrics to the field of geriatrics may eventually become widespread if local physicians will lead the way in their respective communities and counties.

THE HONOR ROLL

Delinquency Around the Corner

If you have not already done so, you should pay your 1941 county medical society dues today so that your membership will not lapse, because dues become delinquent on Mar. 31. On Feb. 17 the dues of 4270 members had been received by the State Society secretary, only 11 more than on the same date last year. Twenty-seven of our 60 component societies had paid for 50 per cent or more of their membership, as follows:

Juniata	100%
Wyoming	87%
Columbia	86%
Clarion	84%
Montgomery	76%
Berks	71%
Potter	71%
Delaware	69%
York	67%
Somerset	65%
Carbon	64%
Indiana	61%
Dauphin	60%
Lancaster	60%
Montour	59%
Armstrong	57%
Elk	57%
Franklin	57%
Allegheny	56%
Philadelphia	54%
Westmoreland	54%
Blair	53%
Lawrence	53%
Butler	51%
Mifflin	51%
Chester	50%
Cumberland	50%

COMMITTEE ON PUBLIC RELATIONS

To the President and Members of the Board of Trustees:

In accordance with the instructions of the board following our committee's report read at your Dec. 10 meeting, we have supplied the chairmen of the Committees on Public Relations of all component societies, for the benefit of their various speakers' bureaus, with

(1) a series of brief hints on the preparation for and the most effective method of delivering health instruction messages to lay audiences entitled "Good Advice on Public Speaking"; (2) a similar leaflet entitled "Do's and Don'ts of Broadcasting"; (3) "Reduce Acute Appendicitis Mortality"; (4) "The Public Looks at Pneumonia," the latter two prepared for us by the respective State Society commissions. Others will follow later if the reception of the above proves to be sufficiently encouraging. The support of the various officers of the State Society in this endeavor, more especially the trustees and councilors, looking to prompt adaptation to local situations, and the assistance of the state and county woman's auxiliaries will be greatly appreciated.

Progress in the assembling of suitable sound motion picture films for county medical society and other forms of usage has been rapid since the approval of the purchase of a modern 16 mm. sound projector and screen.

We are especially indebted to Secretary of Health John J. Shaw, who has contributed to our film library a copy of the State Health Department's recent highly successful sound motion picture on the subject of tuberculosis. This film has already attracted nation-wide attention.

Perhaps the status quo of this experiment in counties throughout the state can best be expressed by the following communication which has for the present, on account of weather and highway conditions, been addressed to only 10 county medical societies adjacent to the committee's headquarters:

Chairman, Program Committee,
————— County Medical Society.

Dear Doctor:

The Committee on Public Relations of The Medical Society of the State of Pennsylvania announces a new program available to all county medical societies for their regular meetings, for the Woman's Auxiliary meetings, and for public health meetings sponsored by approved woman's and service clubs.

This program consists in showing sound motion pictures on health subjects.

The committee has recently purchased the most modern 16 mm. sound projector and screen and our Mr. Roy Jansen has been licensed to operate the machine.

We have at present a splendid film on pulmonary tuberculosis showing Pennsylvania's own part in control of this disease. Other films, those suitable for lay audiences and also scientific films for medical groups only, are being listed and will be available later.

This program item is offered your society to round out your own items. The cost will be the travel expenses of the operator from Pittsburgh and return at the rate of 5 cents a mile plus rental for specially requested films (may be split between several societies).

This letter is being sent to you in advance of more detailed publicity, as we thought you might like to schedule this feature for one of your earlier meetings this year. The tuberculosis film runs about 20 minutes.

Yours very truly,

(Signed) FREDERICK M. JACOB, *Chairman*,
COMMITTEE ON PUBLIC RELATIONS.

We shall look forward to receiving encouragement through assignment of a subsidiary place on the program of councilor district meetings, more especially, we hope, in the third and twelfth, fourth, fifth, sixth, and seventh districts.

Here, again, the trustees and councilors, especially of the ninth, tenth, and eleventh districts, are specifically requested to assist during February and March. If responses are encouraging, the area covered will be expanded as rapidly as possible after Mar. 15.

Respectfully submitted,

FREDERICK M. JACOB, <i>Chairman</i> ,	JOHN A. DAUGHERTY, EUGENE P. PENDERGRASS, <i>Ex Officio</i>
ROBERT M. ALEXANDER, PATRICK E. BIGGINS, JOSEPH W. POST, LEONARD G. REDDING, ELMER G. SHELLEY, CLAUDE W. ASHLEY,	FRANCIS F. BORZELL, LEWIS T. BUCKMAN, ROBERT L. ANDERSON, JOHN J. BRENNAN, WALTER F. DONALDSON.

Feb. 4, 1941.

LICENSE REVOKED

Walter F. Donaldson, M.D., *Secretary*,
The Medical Society of the State of Pennsylvania,
Pittsburgh, Pa.

DEAR DR. DONALDSON:

This is to advise you that the State Board of Medical Education and Licensure on Dec. 18, 1940, revoked the license to practice medicine in Pennsylvania of Dr. Joseph L. Potter, Middleburg, Pa., because of the fact that the Bureau of Narcotic Drug Control of Pennsylvania submitted evidence of his addiction to the use of drugs, and of violation of the narcotic laws.

Dr. Potter's license was revoked Oct. 14, 1937, on a similar charge, and reinstated Dec. 15, 1938. The evidence at hand showed that he had again lapsed in this respect.

I. D. METZGER, M.D., *Chairman*,
Bureau of Professional Licensing,
State Board of Medical Education and Licensure.

Dec. 23, 1940.

PENNSYLVANIA COMMITTEE ON MEDICAL PREPAREDNESS

To the President and Members of the Board of Trustees:

As of Jan. 4, 1941, more than 85 per cent of the 9300 members of The Medical Society of the State of Pennsylvania had completed and returned the A. M. A. Preparedness form. On the same date approximately 45 per cent of the 4000 non-member physicians of Pennsylvania had not returned the completed form.

Copies of the letter* forwarded under first-class postage to 2208 Pennsylvania physicians, members and non-members, exclusive of Philadelphia County, have previously been mailed to the members of the board. The communication referred to, looked upon by our committee after conference with the A. M. A. representatives as "the last call," will be followed early in February by the adoption of the following procedure: Our committee will, to the best of its ability, from information at hand, complete A. M. A. questionnaires for all Pennsylvania physicians who have not responded and forward them to Chicago as requested marked in red ink.

* See page 624, February, 1941, issue of the JOURNAL.

On or about Jan. 21 the Philadelphia County Preparedness Committee mailed their own final appeal. Our committee has asked their permission to communicate with their delinquents subsequent to Feb. 4 before adopting the procedure above-mentioned of supplying available information regarding the remaining delinquent physicians.

Our committee expects to publish in the April PENNSYLVANIA MEDICAL JOURNAL the final report indicating, county by county, the percentage of physicians, county society members and non-members alike, who finally failed to return the A. M. A. preparedness questionnaire.

Medical preparedness committees of all county medical societies in Pennsylvania are considering local application of the plan for "conservation" which was adopted by the 1940 House of Delegates of The Medical Society of the State of Pennsylvania as appended in abstract below:

PLAN I

- (a) For the preservation of adequate medical service to the people of all communities.
- (b) For modification of medical fees to families whose income has been reduced through conscription or enlistment.

PLAN II

When a physician determines he has to serve in one of the armed forces, arrangements should be made with another practitioner to take care of his practice, the locum tenens to agree to the arrangement

(a) That moneys collected from patients by the locum tenens be placed in a separate fund.

(b) That after deducting necessary overhead expenses the balance be divided equally between the absent medical officer and the locum tenens.

(c) That institutional teaching and industrial appointments held at the time of entry into military service be made available upon return.

- (d) That during the period of actual military service the member physician be exempt from payment of medical society dues.

The numerous demands on your committee through state and national defense commission representatives regarding the completion of the personnel of the various draft board, advisory board, and induction board physicians have fallen off considerably since the first of the year.

It is quite evident at this time that the members of our profession in Pennsylvania will at the conclusion of this emergency have, as usual, expressed in terms of patriotic service their traditional participation with all those who thus serve community, state, and nation without remuneration.

Respectfully submitted,
CHARLES H. HENNINGER, *Chairman*,
FRANCIS F. BORZELL,
WALTER F. DONALDSON,
HARVEY B. STONE, *Ex Officio*
(rep. Third Corps Area).

INCREASE IN PUBLIC ASSISTANCE ALLOCATION

To: Chairmen of County Medical Society Subadvisory Committees.

Copy to: Presidents, Secretaries, Editors, and Chairmen of Public Health Legislation Committees of Component County Medical Societies.

A meeting between representatives of the State Healing Arts Advisory Committee, the State Board of Public Assistance, and the State Department of Public Assistance was held on Friday, Feb. 14, at the offices of the department in Harrisburg.

†CONVINCING COUNTY FIGURES ON MEDICAL SERVICE TO PUBLIC ASSISTANCE RECIPIENTS

Month	Sick Rate %	Actual Sick Load Expressed in 1000 Persons	Total Relief Load Persons Expressed in 1000's	Allocation Expressed in \$1000's	Approved Amount (Healing Art) Bills in \$1000's	Prorations Percentage Paid
1939						
*May	8.8	17.1	234	47.0	59.6	73
June	8.9	20.1	226	45.6	50.1	88
July	7.8	17.3	223	44.6	44.8	99
Aug.	7.9	17.9	227	45.3	45.3	100
Sept.	7.3	16.5	226	45.2	43.2	100
Oct.	8.3	18.2	220	44.8	48.0	91
Nov.	7.8	16.1	207	42.1	49.4	81
Dec.	7.6	15.3	202	46.7	51.3	88
1940						
Jan.	11.2	22.8	204	53.9	68.3	72
Feb.	10.6	21.7	205	53.0	61.7	81
Mar.	11.5	23.5	205	51.0	68.6	66
Apr.	12.0	24.0	200	42.4	69.3	48
*May	12.7	24.3	192	35.0	68.1	35
June	12	22.3	186	29.8	62.4	31
July	11.8	22.3	189	29.9	62.5	31

*It will be noted that in May, 1939, we in Philadelphia County took care of 17,100 P. A. sick people for \$47,000 and in May, 1940, we took care of 24,300 sick people for \$35,000.

JAMES F. SCHELL, M.D., *Chairman*,
Medical Relief Committee,
Philadelphia County Medical Society.

† Editor's note: Having read Dr. Schill's report, please read Dr. Palmer's communication above.

After the presentation of the request of the State Healing Arts Advisory Committee at the suggestion of the various county committees, especially the county medical society subadvisory committees, the State Department and State Board of Public Assistance passed a resolution which permits the allocation of 35 cents—an increase of 75 per cent over the present 20 cent rate—to each individual on the Public Assistance rolls for each month.

This increased allocation will begin Mar. 1 and will be carried through for 6 months in order to determine data and statistics under this advanced rate.

The dental program will be expanded according to the request of the State Dental Society.

This definite response to our recommendation constitutes a direct challenge to the members of the county medical society subadvisory committees and all of the professional groups which compose the healing arts committees to control this program and to hold it well within the limits. It must be understood that this remains a plan whereby the minimum of good service may be delivered and paid for. Any prorations which may now develop should be slight.

The various county healing arts subadvisory committees must therefore become more closely organized and keep this program under the control of the healing arts professions.

On investigation it was found that in only 12 counties have regular periodic meetings of the healing arts advisory committees been held, and it was strongly suggested that in all counties these important committees should arrange to meet regularly.

After the 6 months' trial period, if the healing arts group can prove the necessity for maintaining this rate and at the same time keep it under control by supplying minimum but adequate service, there is no doubt that the increased rate will be continued. If not, there is grave danger of the department insisting on some other arrangement, such as the employment of physicians on salary to do this work.

Contact your legislators promptly, not forgetting your state senator, informing them of this favorable response and action on the part of the State Board and the Department of Public Assistance. Thank each for his expression of sentiment in favor of this increase.

CHAUNCEY L. PALMER,

Representing The Medical Society of the State of Pennsylvania on the State Healing Arts Advisory Committee to the State Department of Public Assistance.

Feb. 18, 1941.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to Jan. 31:

New (85) and Reinstated (16) Members

ALLEGHENY COUNTY (Pittsburgh)

Edward T. Davis, Jr.	William Myers
James E. Flinn, Jr.	Hyman A. Pober
Clement R. Jones, Jr.	Herbert H. Sullivan
Jacob B. Kartub, Dravosburg	

BEDFORD COUNTY

Victor Maffucci, Jr. Everett

BLAIR COUNTY

Paul K. Good Hollidaysburg
Samuel I. Haimowitz Cresson
Joseph N. Plumer“

BRADFORD COUNTY

(R) Daniel L. Bevan.

CHESTER COUNTY

Paul L. Bradford Oxford
Charles W. Bruton Downingtown
Benedict V. Maniscalco Coatesville
John Wesley Pratt, II Coatesville

CLEARFIELD COUNTY

William S. Piper Clearfield

DELAWARE COUNTY

Robert J. Gallagher Yeadon
(R) William C. Wood.

HUNTINGDON COUNTY

George H. Bumgardner Orbisonia
Walter B. Watkins Huntingdon

INDIANA COUNTY

Peter G. Kutra McIntyre

LACKAWANNA COUNTY

Blanche H. M. Bach Clarks Summit
Harold L. Colleran Jessup
Gladys Friend Dupont
Benjamin V. Kaufman Taylor
Victor J. Margotta Dunmore
Joseph A. Gustaitis Scranton
Nicholas E. Patrick“
George E. Pugh“
(R) Wilfred G. Drouin, Helen Houser.

LANCASTER COUNTY

John L. Farmer Lancaster
Kerwin W. Kinard“
Jacob H. Garber, Jr. Elizabethtown
Richard R. Hoffman Manheim
Evans D. Russell Ephrata

LUZERNE COUNTY

Francis A. Blaum White Haven
Herman B. Dattner Wilkes-Barre
(R) James S. Dixon.

MONTGOMERY COUNTY

Edward J. Ford Jenkintown

NORTHUMBERLAND COUNTY

Vincent C. Olshefski Mount Carmel

PHILADELPHIA COUNTY (Philadelphia)

Edwin B. Abramson	Emanuel Chat
Nina A. Anderson	Hunter S. Cook
Charles P. Bailey	Walter A. D'Alonzo
David V. Bradley	John W. Deichler
Edmund J. Brogan	Adrian H. Donaghue
Louis L. Buzaid	Lena Marie English
Alice Boole Campbell	Morris L. Fisher
Stephen L. Casper	Joseph Nadell Grossman
Burton Chance, Jr.	Benjamin H. Harris

William C. Hunsicker, Jr.
Allison Ellwood Imler
Kalman Kaufman
David Brown Kimmelman
Dunne W. Kirby
John Lansbury
Robert Reese Layton, Jr.
William Yeatman Lee
Salem Harris Lumish
George W. Paschal, Jr.
Vincent J. Puszynski
Thomas V. Murray
Samuel S. Ringold
Thurston D. Rivers

Martin H. Robinson
S. Zira Rose
Milton K. Rosen
William A. Shannon
Henry Allen Spangler
Peter L. Steffa
Samuel Sugarman
Francis X. Sweeney
Erich Urbach
Mary Vardaro
Robert Spencer Wigton
Michael I. Wolkowicz
Joseph H. Zeigerman

(R) Samuel Baron, Nicholas N. Briglia, Adele C. Kempker, Hugh Hayford, Rose Rena M. Mikelberg, Harry H. Simpkins, Harry A. Schatz, Justin G. Schwerin, Meyer Steinbach.

TIoga COUNTY

(R) Hughes G. Meaker, Ralph P. Matter.

WAYNE-PIKE COUNTY

Paul C. Lannon Honesdale

YORK COUNTY

Margaret Paxson York
Wilbur H. Wire Spring Grove

Removals (7), Transfers (5), Resignations (13), Deaths (20)

ADAMS COUNTY: *Death*—Harry E. Gettier, Littlestown (Balt. Med. Coll. '97), Dec. 26, aged 70.

ALLEGHENY COUNTY: *Removal*—Donald J. Hourican from Pittsburgh to Fitzsimmons General Hospital, Denver, Colo. *Transfers*—Thomas L. Cottom, Pittsburgh, from Northumberland County Society; Maurice H. Bowers, Bellevue, from Washington County Society. *Resignation*—Otto E. Ramick, Pittsburgh.

ARMSTRONG COUNTY: *Death*—William J. Bierer, Kittanning (Univ. Pgh. '97), Oct. 22, aged 67.

BEAVER COUNTY: *Deaths*—Ira C. Duncan, Beaver Falls (Univ. Pgh. '12), Dec. 30, aged 60; John J. Wickham, Rochester (Ohio Med. Coll. '85), Jan. 5, aged 78.

BUCKS COUNTY: *Removal*—Ladd E. Hoover from Langhorne to Richwood, W. Va.

CLARION COUNTY: *Death*—George B. Woods, Curllsville (Coll. Phys. & Surg., Baltimore, '87), Sept. 29, aged 77.

DAUPHIN COUNTY: *Transfers*—Arthur O. Hecker, Harrisburg, from Allegheny County Society; Fred Pease, Steelton, from Clearfield County Society; Patrick J. McGlynn, Harrisburg, from Adams County Society. *Deaths*—Clarence C. Bobb, Lykens (Temple Univ. '19), Nov. 16, aged 45; Stephen S. Landis, Harrisburg (Univ. Pgh. '11), Sept. 27, aged 53.

DELAWARE COUNTY: *Death*—Edward W. Bing, Chester (Jeff. Med. Coll. '77), Dec. 10, aged 85.

GREENE COUNTY: *Death*—George W. Hatfield, Mount Morris (Univ. Pgh. '87), Jan. 29, aged 75.

MONTGOMERY COUNTY: *Resignations*—Bothwell Graham, III, Durham, N. C.; Thomas R. Uber, Cleveland, O.

PHILADELPHIA COUNTY: *Removals*—Joseph G. Sirken from Philadelphia to Silver Springs, Md.; Dale W.

Garber from Philadelphia to Grantville, R. D. 1 (Dauphin Co.); James S. Dean from Philadelphia to Pennhurst, Spring City P. O.; Elizabeth F. Clark from Philadelphia to Chalfont-Haddon Hall, Atlantic City, N. J. *Resignations*—Howard H. Bradshaw, George Raoul Gordon, Theodore Meranze, James M. O'Brien, Philadelphia; Anthony R. Camero, Los Angeles, Calif.; Ellice McDonald, Newark, Del.; George S. McReynolds, Jr., Galveston, Texas; Esther F. C. Smolens, Langley Field, Va.; Robert Wm. Traganza, Camden, N. J.; Elizabeth K. Young-Arvad, King City, Calif. *Deaths*—Charles S. Barnes, Philadelphia (Jeff. Med. Coll. '97), Dec. 29, aged 78; David D. Custer, Philadelphia (Univ. Pa. '83), Jan. 14, aged 83; Charles W. Le Fever, Philadelphia (Jeff. Med. Coll. '97), Dec. 16, aged 71; James P. Mann, Philadelphia (Jeff. Med. Coll. '88), Dec. 29, aged 77; Valentine R. Manning, Philadelphia (Med.-Chi. Coll. '02), Jan. 8, aged 59; John J. Robrecht, Philadelphia (Univ. Pa. '94), Dec. 21, aged 73; Robert G. Torrey, Philadelphia (Univ. Pa. '06), Jan. 11, aged 62; Morris Winheld, Philadelphia (Balt. Med. Coll. '04), Dec. 23, aged 67.

SCHUYLKILL COUNTY: *Death*—Abram P. Seligman, Mahanoy City (Jeff. Med. Coll. '92), Jan. 22, aged 70.

TIoga COUNTY: *Removal*—Lewis E. Wells from Knoxville to Ellwood City (Lawrence Co.).

VENANGO COUNTY: *Death*—Alex. MacLeod Brown, Franklin (Univ. Pa. '98), Nov. 26, aged 72.

YORK COUNTY: *Death*—Charles Rea, York (Med.-Chi. Coll. '94), Jan. 26, aged 68.

Net gain in membership during January 68

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since Dec. 30. Figures in first column indicate county society numbers; second column, State Society numbers:

Jan. 2	Luzerne	350-351	9185-9186	\$20.00
	Luzerne	3-19	521-537	170.00
3	Montgomery	101-108	538-545	75.00
	Montgomery	109-121	546-558	130.00
4	Indiana	1	559	10.00
	Bedford	2	560	10.00
6	Bedford	3	561	10.00
	Philadelphia	26-61	562-597	360.00
	Philadelphia (1933 dues)			7.50
	Philadelphia	2448-2451	9187-9190	30.00
7	York	19-50	598-629	320.00
	Centre	3-7	630-634	50.00
	Montgomery	122-132	635-645	110.00
	Columbia	11-13, 15-29	646-663	180.00
	Columbia	†29		
	Bedford	4	664	10.00
	Franklin	4-18	665-679	150.00
9	Lackawanna	265-266	9191-9192	20.00
	York	51-77	680-706	270.00
	Tioga	26-27	9193-9194	20.00
	Elk	1-7	707-713	70.00
11	Chester	1-2, 4-16, 18-30	714-741	280.00
	Indiana	2-7	742-747	60.00
	Carbon	3-14	748-759	120.00

† Exempt on account of military services; dues paid by county society.

Jan. 11	Delaware	242	9195	\$10.00
	Montgomery	133-139, 142-150	760-775	160.00
	Montgomery	*140-141		
13	Berks	1-5, 12-98	776-867	920.00
	Northumberland	1-11	868-878	110.00
14	Erie	14-19, 22-28	879-891	130.00
	Somerset	6-13	892-899	80.00
15	York	*92		
16	Huntingdon	6-7	900-901	20.00
	Montgomery	151-160, 162-163	902-913	120.00
	Montgomery	*161		
17	Juniata	1-7	914-920	70.00
	Delaware	6-44, 46-111	921-1023	1030.00
	Delaware	*87-88		
20	Wyoming	1, 3-13	1024-1035	120.00
	Erie	29-55	1036-1062	270.00
	Luzerne	20-64	1063-1107	450.00
	Cumberland	1-19	1108-1126	190.00
	Indiana	8-9	1127-1128	20.00
	York	78-91, 93-95	1129-1145	170.00
23	Somerset	14-21	1146-1153	80.00
	Franklin	19-39	1154-1174	210.00
	Armstrong	1-25	1175-1199	250.00
24	Montgomery	164-170	1200-1206	70.00
27	Somerset	22-24	1207	10.00
	Somerset	*23-24		
	Armstrong	26-28	1208-1210	30.00
	Centre	8-15	1211-1218	80.00
	Chester	3, 17, 31-55	1219-1245	270.00
28	Erie	56-67	1246-1257	120.00
	York	96-100	1258-1262	50.00
29	Bradford	1-9	1263-1271	90.00
	McKean	6-10	1272-1276	50.00
	Wayne-Pike	1-11	1277-1287	110.00

CONTRIBUTIONS TO MEDICAL BENEVOLENCE FUND

The Committee on Medical Benevolence makes grateful acknowledgment of the following contribution to the fund:

From former West Branch Medical Association \$19.85

Total contributions since 1940 report \$598.85

LIBRARY NEWS

Members desiring to borrow reprints from the library should send 25 cents in stamps to cover the postage and part of the expense of collecting the material. Address the Librarian, 230 State St., Harrisburg, Pa. Each package may be kept for a period of 14 days.

Between Dec. 1 and Feb. 1 the following borrowers made use of the library:

I. Pemberton P. Hollingsworth, West Chester—*Liver Function Tests* (3 articles).

Louis C. Jacobs, Harrisburg—*Gonorrheal Arthritis* (14 articles).

John J. Conroy, York—*Headache* (22 articles).

Carl D. Morneweck, Harrisburg—*Growth and Development of Children* (1 article).

Fred E. Murdock, St. Marys—*Salivary Glands* (18 articles).

Nathan Sussman, Hazleton—*Inversion of the Uterus* (14 articles).

Lester H. Perry, Harrisburg—*Sex Education* (2 articles).

Wilbur E. Flannery, New Castle—*Obesity Therapy* (19 articles).

Russell A. Garman, Jeannette—*Blood Proteins* (16 articles).

James B. Hall, Johnstown—*Medical Legislation* (3 articles).

William D. Schrack, Jr., Harrisburg—*Undulant Fever* (30 articles).

H. A. Prober, Pittsburgh—*Tularemia* (23 articles).

George R. Taylor, Philipsburg—*Therapy of Epilepsy* (15 articles).

Dale C. Stahle, Harrisburg—*Therapy of Pneumonia* (8 articles).

J. Edward Book, Newport—*Diseases of the Nasal Sinuses* (1 article).

Augustus S. Kech, Altoona—*Industry and Occupations* (16 articles); *Lead Poisoning* (20 articles); *Workmen's Compensation and Insurance* (9 articles).

Charles S. McConnel, Waynesboro—*Fractures of the Femur* (21 articles).

Harry J. Treshler, Cresson—*Syphilis and Tuberculosis* (7 articles).

Hamilton C. Wallace, Pottsville—*Dementia Praecox* (26 articles).

Harvey F. Smith, Harrisburg—*Lymphogranuloma Venereum* (31 articles).

Adolph S. Gabor, Bethlehem—*High Blood Pressure* (29 articles).

Frederic B. Davies, Scranton—*Motion Pictures* (1 article).

Creed C. Glass, Meyersdale—*Cardiac Asthma* (12 articles).

Joseph W. Milliron, Kittanning—*Socialized Medicine* (22 articles).

J. Reginald Myers, Everett—1 journal.

Harvey M. Watkins, Polk—*Pneumothorax* (33 articles).

John H. Fust, Erie—*Uveitis* (30 articles).

E. Roger Samuel, Mt. Carmel—*Diseases of the Heart* (24 articles).

William H. Oetting, Jr., Wilkesburg—*Obstruction of the Intestines* (11 articles).

John A. New, Pittsburgh—*Neurofibromatosis* (6 articles).

Laura M. Lang, Lebanon—*Ulcerative Colitis* (30 articles).

John T. Simmons, New Orleans, La.—*Accommodation and Refraction* (23 articles).

James H. Booser, Harrisburg—*Wounds and Injuries of the Eyes* (4 articles).

Albert E. Kratzer, Emmaus—*Carbon Monoxide Poisoning* (29 articles).

James B. Hall, Johnstown—*Pneumoconiosis* (24 articles).

George S. Enfield, Bedford—*Pentosuria* (4 articles).

Charles R. Brandt, Mechanicsburg—*Cardiovascular Syphilis* (21 articles).

* Exempt on account of military service.

Herman Hirsh, Harrisburg—*Socialized Medicine* (23 articles).

J. Frederic Snyder, Philadelphia—*Appendix* (21 articles).

A. Arthur Newmark, New Castle—*Medical Superstitions* (24 articles).

Miriam Johnson, Laurelton—*Infection of Wounds* (26 articles).

Sidney L. Feldstein, Harrisburg—*Tuberculosis in Infants and Children* (7 articles).

Francis N. Mangold, Scottdale—*Blood Transfusion* (31 articles).

Thomas G. Nelan, Pittsburgh—*Peptic Ulcer* (10 articles).

James N. Coombs, Philadelphia—*Marginal Peptic Ulcer* (15 articles).

Charles L. Johnston, Catawissa—*Cancer of the Lungs* (32 articles).

Park A. Deckard, Harrisburg—*Socialized Medicine* (11 articles).

Mrs. Tom Outland, Elizabethtown—*Socialized Medicine* (27 articles).

Samuel J. Dickey, Harrisburg—*Tumors of the Kidneys* (25 articles).

George S. Enfield, Bedford—*Diabetes Mellitus* (9 articles).

John J. Conroy, York—*Scarlet Fever Complications* (11 articles).

Harry J. Treshler, Cresson—*Therapy of Pulmonary Tuberculosis* (1 article).

Thomas R. Hepler, Harrisburg—*Rheumatic Fever* (12 articles).

Thomas G. McQueen, Mifflinburg—*Cannabis* (15 articles).

Dale C. Stahle, Harrisburg—*Influenza* (53 articles).

Stanley P. Balcerzak, Carnegie—*Bronchiectasis* (18 articles).

Mashel F. Pettler, Beaver Falls—*Vitamin A* (16 articles).

Frederick A. Miller, Pittsburgh—*Celiac Disease* (15 articles).

Abe A. Newmark, New Castle—*Medical Superstitions* (1 article).

Mrs. E. M. Caseber, Finleyville—*Medical Films* (1 article).

Frank P. Dwyer, Renovo—*Diseases of the Skin* (35 articles); *Skin Diseases of Menopause* (10 articles).

James J. Monahan, Shenandoah—*Diseases of the Nasal Sinuses* (11 articles).

Joseph W. Allwein, Newville—*Cancer of the Lungs* (36 articles).

Arthur B. Davenport, Tunkhannock—*Socialized Medicine* (24 articles).

William C. Schultz, Jr., Waynesboro—*History of Anesthesia* (34 articles).

Moses J. Leitner, Bushkill—*Vitamin B* (34 articles).

Francis N. Mangold, Scottdale—*Pancreatitis* (24 articles).

T. Kevin Reeves, Pittsburgh—*Psychiatry* (21 articles).

John D. Boger, Lebanon—*Socialized Medicine* (10 articles).

Elizabeth Kirk Rose, Philadelphia—*Impotence and Frigidity* (8 articles).

Persis Straight Robbins, Bradford—*Medicine* (9 articles).

Mrs. George H. Seaks, Harrisburg—*Socialized Medicine* (9 articles).

I. Pemberton P. Hollingsworth, West Chester—*Phosphorus Compounds in the Blood* (2 articles).

Walter J. Leaman, Leaman Place—*Therapy of Pelagra* (13 articles).

Mrs. Ralph S. Walter, Harrisburg—*Socialized Medicine* (22 articles).

Mrs. John W. Plowman, Harrisburg—*Socialized Medicine* (9 articles).

Mrs. George H. Seaks, Harrisburg—*State Medicine* (4 articles).

Myer W. Rubenstein, Pittsburgh—*Alopecia* (9 articles).

William Hutchison, McKeesport—*Immunization* (11 articles).

Robert J. Dickinson, DuBois—*Therapy of Rheumatic Fever* (9 articles).

Edward Suckle, Coatesville—*Therapy of Arthritis* (6 articles).

Elizabeth Kirk Rose, Philadelphia—*Endocrinopathies* (25 articles).

John G. Wilson, Factoryville—*Licensure* (3 articles).

Mrs. Marguerite G. Steiner, Harrisburg—*1 journal*.

Abe A. Newmark, New Castle—*Superstitions* (1 article).

AUTHORIZATION OF PHYSICAL EXAMINATIONS, TREATMENTS, OPERATIONS, AND AUTOPSIES

Ordinarily an operation must be performed strictly within the limits of the authority that has been given. Authority may be given, however, for the operating physician to use his own judgment, and this usually should be demanded by the physician.

Written Consent Preferred

Consent by word of mouth to an operation or an autopsy is probably the most common form of consent. . . . Oral consent is, however, open to misunderstanding and may be difficult of proof. Whenever it is to be relied on, consent should be given in unequivocal terms, in the presence of one or more disinterested witnesses. Written consent to an operation or to an autopsy is by far the safest, for it permits a clear record of the nature and extent of the operation or autopsy that is authorized. If the patient is a minor, authority for an operation must come from his parent or guardian.—*Board of Trustees, The Medical Society of the State of Pennsylvania.*

REPORT OF FIRST MEETING OF THE PENNSYLVANIA STATE NU- TRITION COUNCIL

Penn-Harris Hotel, Harrisburg, Pa.
Jan. 24, 1941

Miss Laura W. Drummond, director, Department of Home Economics, State College, opened the meeting by giving a brief history of the development of the council.

"In August, 1940, Dr. Louise Stanley, of the United States Department of Agriculture, suggested to the presidents of land-grant colleges that councils be appointed in each state to co-ordinate all services relating to nutrition as a part of national defense.

"President R. D. Hetzel, of the Pennsylvania State College, appointed the personnel of the Pennsylvania Nutrition Council (41 members) representing organizations and institutions whose membership or programs are directly concerned with nutrition.

"The purpose of the council is to analyze state needs and plan for the type of services which this group may render to promote better nutrition among Pennsylvanians."

Each member was then introduced. Included in the membership are representatives from the Pennsylvania State Medical and Dental Associations, State Nurses, Dietetics and Home Economics Associations, State Parent-Teachers Association, State Grange, WPA, Federated Women's Clubs, State Departments of Health, Welfare, and Public Assistance, and the Agriculture and Home Economics Divisions of the State Department of Public Instruction and of State College.

Dr. Paul Dodds, director of the Bureau of Maternal and Child Health, State Department of Health, discussed "Nutrition Needs in Pennsylvania." He emphasized the following:

Nutrition must be looked upon as the cornerstone of health defense for national defense.

One of our outstanding needs is a practical yardstick so that we may know what food our families in Pennsylvania need and what these families receive. Dr. Pauline Beery Mack and her research co-workers are helping us with this problem.

There has been rapid advance in our knowledge of nutrition. People are interested in applying this nutrition research to themselves. There is no stratum of our people which is not in need of nutrition education.

In this state it must be our goal to increase awareness to nutritional needs. For national defense it is necessary *now* to have the newer knowledge of nutrition put to practical use by all of our people.

"The Nutrition Status of Pennsylvania Families and Children" was discussed next by Dr. Pauline Beery Mack, recently appointed director of the Ellen H. Richards Institute at Pennsylvania State College. Illustrated with slides, a graphic picture was presented of the work in human nutrition research at Pennsylvania State College that she and her co-workers have carried on since 1935, and co-operatively with the State Department of Health since 1936. A summary of her paper follows:

The technics for measuring nutritional status in human beings as carried on in the Pennsylvania study were first described. These include a basal metabolism test, at the suggestion of the physician or pediatrician associated with the study, in order to eliminate cases in which glandular disturbances might interfere with food utilization; complete medical examination; anthropometric measurements, with calculations of 16 anthro-

pometric indices; clinical dental examination; complete dental roentgen rays; determination of solubilizing effect of saliva on dental enamel; assay of skeletal maturity from roentgen rays; measurement of skeletal mineralization by photo-electric microphotometer; hemoglobin estimation; red cell count; estimation of blood plasma ascorbic acid; darkness adaptation tests; and capillary wall strength measurements.

Dietaries are kept for a 2-week period under the supervision of visiting registered nurses. These are analyzed for energy, protein, carbohydrates, fats, calcium, phosphorus, and vitamins A, B₁, C, and riboflavin. Correlations are being calculated between the intakes of the various nutrients and the responses to the nutritional tests.

Findings of the Study

1. Undernutrition has been found to be quite high in representative Pennsylvania communities, both among complete families and among school children.

2. In an industrial community of long-time depression, none of the children were placed in the optimum class according to the pediatrician's examination; 53.4 per cent were placed in the optimum weight class according to the Prior index; 53.1 per cent were placed in the optimum skeletal maturation class according to the Todd standard; 7.4 per cent were placed in the optimum class with respect to skeletal mineral index; 2.5 per cent were placed in the highest class with respect to dental status as based on absence of dental caries and other related factors; 1.2 per cent only measured 13 grams or more of hemoglobin per 100 c.c. of blood; and only 9.4 per cent were in the highest darkness adaptation test.

3. Children in a college community of higher average incomes gave larger percentages in the highest classes of response with regard to the various nutritional tests than did those of the industrial community just cited, although the percentages in the best classes, even in this community, were not as high as would seem desirable. The percentages of rural children selected from a county in the state noted for its high agricultural productivity were even low, on the average, with respect to many of the nutritional tests.

4. The Pennsylvania studies have shown that 2 factors are closely related to the choice of food for family and child use, and for the consequent nutritional status, namely, education of adult members of the family, and income of the family. Of these 2 factors, education has been found statistically to be of more importance in determining food selection than has purchasing power.

5. The value of parental education in changing food consumption habits has been demonstrated by a study, as has also the importance of feeding a school lunch designed to compensate for inadequate home diets of children.

6. As a part of the Pennsylvania studies, the administration of the school lunch has been considered as a possible means of supplementing an otherwise inadequate home morning and evening dietary for children in school. The school lunch has been approached in this study not as a means of providing a cheap source of calories but as a potential source of the nutrients which a child is least likely to receive in adequate quantities at home, namely, proteins, minerals, and vitamins. The inadequacy of children's home dietaries with respect to these nutrients becomes progressively greater as parental education and incomes go down. By finding the contents of the 3 meals a day for a large group of representative children selected from various

income levels, the Pennsylvania investigators have graphed the probable needed content of these nutrients in a school lunch designed to meet the requirements of children of various socio-economic levels.

Representative school lunches containing amounts of protein, calcium, phosphorus, iron, and the various vitamins which, when added to the morning and evening meal, give an adequate day's dietary have been tried on an experimental basis as a part of the Pennsylvania studies and have been found to be extremely effective in improving nutritional status of the children fed in this manner.

"The Role of Surplus Commodities in a State Nutrition Program" was briefly discussed by Mr. C. A. Hile, supervisor of state distribution. He outlined the 3 methods through which surplus commodities are now being made available in Pennsylvania. They are:

1. *Direct distribution* to clients of the Department of Public Assistance and veterans of the last war.

2. *Food Stamp Plan*, which is spreading rapidly over the state and which may benefit not only the 2 groups mentioned in (1) but also WPA workers. (For each dollar spent for orange stamps, which can be used to buy any food, 50 cents' worth of blue stamps are issued without cost. Surplus commodities are available in exchange for blue stamps.)

3. *School lunches* are using over 1,000,000 pounds of commodities a month. Truck routes have been established for delivery to schools on main highways. The smaller schools off the main routes must, at present, work out some plan of getting supplies to their buildings.

Afternoon Session

Mrs. Rowena Schmidt Carpenter, Bureau of Home Economics, Washington, D. C., gave interesting highlights on what nutrition councils are doing in other states. She emphasized:

1. All states now have organized councils and are working on plans to meet the peculiar needs of their states.

2. No program can be outlined in Washington which can be used by all councils. Each state must study its own problems and work toward improving existing situations.

3. Stress drawing together not only professionally trained people but lay individuals and club leaders. These may well be termed "action groups."

4. Provide opportunities through refresher courses and special meetings for lay leaders to give the latest information on nutrition and how it may be used most wisely in developing a united front in nutrition teaching.

Working Committees

All the members of the council were divided into 3 groups and discussed the particular phases of nutrition work each might develop.

After formulating tentative plans for action, the council met in general session at which a summary of each committee's proposed activities was presented.

Committee A—Utilization of Food Resources— Phyllis K. Sprague

1. Our committee is not large enough to cover some phases of food resources. Suggestions for increasing our personnel have been made.

2. We need continuously to give information on the value of available commodities.

3. A genuine need was expressed for more foods to promote better school lunches. These may be secured

from state surplus commodities for schools not yet receiving them or by barter with 4-H clubs to improve the variety in schools already serving lunches.

4. We believe it is important to disseminate to our groups all information worked out by Committee B.

Committee B—Protection and Promotion of the Nutrition of Children and Families in Pennsylvania— Anna dePlanter Bowes

1. Our committee discussed the present work of organizations and how they might help in the council's program.

2. Mr. Lester H. Perry, managing editor of THE PENNSYLVANIA MEDICAL JOURNAL, informed the group of the functions of the Nutrition Committee of The Medical Society of the State of Pennsylvania. The resolutions on nutrition and the proposed membership of the committee were read verbatim to the group. Herbert T. Kelly, M.D., chairman of the Nutrition Committee of the State Medical Society, was suggested as a working member of the council on Committee B.

3. Dr. C. J. Hollister, speaking for the State Dental Society, said that the council was assured of any possible co-operation from their members, including the use of their dental journal for notices or reports of the council meetings. He also expressed the hope that some nutrition literature might be prepared for distribution to dentists in the state.

4. Mrs. Anna Green, of the Department of Public Instruction, outlined the state home economics program. About 2000 home economics teachers cover the entire state and are continually working with children in schools. The 28 county supervisors will gladly disseminate literature and co-operate in any general educational work the council may do.

5. Dr. Robert P. Wray, of the Department of Public Assistance, said that his department is interested in knowing the essentials of an adequate diet both at "minimum subsistence" and "health and decency" levels, and the nature and cost of those items of food essential thereto. It was agreed to send this information to him.

6. Representatives from the State Nurses Association, WPA, N. Y. A., and other state groups pledged co-operation through all possible channels in their organizations for the preparation and dissemination of nutrition information.

7. The consensus of group opinion was that we immediately set in motion working personnel for preparing literature along the lines indicated. Co-operation with medical and dental societies and budget literature for the low-income and moderate-income levels were first considerations.

Committee C—Leadership in Community Nutrition Programs—Margaret Brown

1. Philadelphia and Pittsburgh public schools were represented in our committee. In both cities much work is being done in teaching the wisest use of surplus commodities. Pittsburgh is taking care of underprivileged children. In Philadelphia institutes are held in which the mothers of school children are helped in preparing foods of good nutritional value.

2. The State Federation of Women's Clubs began their work in this field in the School of Social Relations at State College, and they stand ready to work with other organizations that are already set up.

3. Miss Frances Hoag, of the Philadelphia Dairy Council, offered the services of the council with speakers and materials.

4. In Pittsburgh dietitians are available for clinic classes and special demonstrations.

5. All through the state people are interested in vegetables. We found a great lack in the use of the green varieties. An effort is being made to stimulate greater production and consumption of these vegetables.

SIXTH ANNUAL POSTGRADUATE INSTITUTE

The Philadelphia County Medical Society will hold its Sixth Annual Postgraduate Institute from Mar. 31 to Apr. 4 in the Bellevue-Stratford Hotel, Philadelphia.

The topic of "Symposia on Modern Therapy" is very important to the general practitioner of medicine. Eighty-nine papers will be presented by the most outstanding teachers of medicine in the Philadelphia area. Dr. Rufus S. Reeves, director of the Postgraduate Institute, and his committee are to be congratulated on the fine program they have arranged. Members of all county medical societies are invited to attend the institute. A registration fee of \$5 will be charged those in attendance who do not belong to the Philadelphia County Medical Society.

The complete program is as follows:

Monday, Mar. 31, 1941

- 10:00-10:20 "Asphyxia of Newborn; its Causes and Treatment." Edward S. Thorpe, Jr., M.D., University Hospital.
- 10:20-10:40 "Methods Suggested for Reduction of Stillbirth and Infant Mortality." Ruth Hartley Weaver, M.D., Woman's Hospital.
- 10:40-11:00 "Feeding Principles for Newborn." Emily P. Bacon, M.D., Mary Drexel Children's Hospital.
- 11:00-11:20 "Infantile Eczema and Atopic Dermatitis Therapy." Donald M. Pillsbury, M.D., University Hospital.
- 11:20-11:40 "Management of Acute Otitis Media and Acute Mastoiditis in Children." Horace J. Williams, M.D., Jefferson Hospital.
- 11:40-12:00 "The Treatment of Burns." Walter E. Lee, M.D., Graduate Hospital.
- 12:00-12:15 "Treatment of Infections of the Face." Gilson C. Engel, M.D., Lankenau Hospital.
- 12:15-12:30 "The Modern Treatment of Epilepsy." Joseph C. Yaskin, M.D., Graduate School of Medicine of University of Pennsylvania.
- 12:30- 2:00 Luncheon, Bellevue-Stratford Hotel.

Monday Afternoon

- 2:00- 2:15 "Treatment of Epistaxis." Karl M. Houser, M.D., University Hospital.
- 2:15- 2:35 "Management of Acute Sinus Infection." Edward H. Campbell, M.D., Pennsylvania Hospital.
- 2:35- 2:50 "Treatment of Retropharyngeal Abscess." Chevalier L. Jackson, M.D., Temple University Hospital.
- 2:50- 3:10 "Chemotherapy in Otolaryngology." Harry P. Schenck, M.D., University Hospital.

- 3:10- 3:30 "Acute and Chronic Eczema." Frank C. Knowles, M.D., Jefferson Hospital.
- 3:30- 4:00 Intermission for review of exhibits.
- 4:00- 4:20 "Causes and Treatment of Leukorrhea." Thaddeus L. Montgomery, M.D., Temple University Medical School.
- 4:20- 4:40 "Causes and Treatment of Dysmenorrhea." John B. Montgomery, M.D., Jefferson Medical College.
- 4:40- 4:55 "The Treatment of Upper Urinary Tract Infections with Sulfanilamide Compounds." Charles A. W. Uhle, M.D., Lankenau Hospital.
- 4:55- 5:25 "Chemotherapy in Gonococcic Infections." Percy S. Pelouze, M.D., University Hospital.

Tuesday, Apr. 1, 1941

- 8:30 Round-table discussion on "Chemotherapy." *Chairman*—Harrison F. Flippin, M.D.
- 9:00- 9:20 "Management of Meningitis in Children." Waldo E. Nelson, M.D., Temple University Hospital.
- 9:20- 9:40 "Management of Pyuria in Childhood." Samuel Goldberg, M.D., Temple University Medical School.
- 9:40-10:00 "Chemotherapy in Childhood Pneumonia." Theodore Wilder, M.D., Germantown Hospital.
- 10:00-10:15 "Shock Therapy in the Treatment of Mental Disease." Donald W. Hastings, M.D., Pennsylvania Hospital.
- 10:15-10:30 "Finger Infections." L. Kraeer Ferguson, M.D., University Hospital.
- 10:30-11:00 Intermission for review of exhibits.
- 11:00-11:15 "Control of the Constitutional Factors of Uncomplicated Peptic Ulcer." Thomas A. Johnson, M.D. (by invitation), Graduate Hospital.
- 11:15-11:35 "Dietary and Medicinal Management of Uncomplicated Peptic Ulcer." Martin E. Relhuss, M.D., Jefferson Hospital.
- 11:35-11:50 "Medical Management of Bleeding Peptic Ulcer." T. Grier Miller, M.D., University Hospital.
- 11:50-12:10 "The Surgical Treatment of Bleeding Ulcer." Eldridge L. Eliason, M.D., University Hospital.
- 12:10-12:30 "The Pharmacology and Toxicology of Sulfanilamide and its Derivatives." Harrison F. Flippin, M.D., Philadelphia General Hospital.
- 12:30- 1:30 Noon intermission.

Tuesday Afternoon

- 1:30- 2:05 "Modern Treatment of Syphilis." John H. Stokes, M.D., University Hospital.
- 2:05- 2:25 "The Broadening Scope of Active Therapy in Organic Neurologic Diseases." Frederic H. Leavitt, M.D., University of Pennsylvania Graduate School of Medicine.
- 2:25- 2:45 "Syphilis and Marriage—The Pennsylvania Premarital Law." Robert L. Gilman, M.D., Graduate Hospital.
- 2:45- 3:05 "Treatment of Cardiovascular Syphilis." Charles C. Wolferth, M.D., University Hospital.

- 3:05- 3:35 Intermission for review of exhibits.
 3:35- 3:55 "Etiology and Control of Puberty Bleeding." Franklin L. Payne, M.D., University of Pennsylvania Medical School.
 3:55- 4:15 "Significance and Management of Abnormal and Postmenopausal Uterine Bleeding." Lewis C. Scheffey, M.D., Jefferson Medical College.
 4:15- 4:35 "The Value and Limitations of Radium and Roentgen Rays in the Treatment of Cancer." Bernard P. Widmann, M.D., Philadelphia General Hospital.
 4:35- 4:50 "Diagnosis and Medical Management of Apparent Pyloric Obstruction." W. Osler Abbott, M.D., University Hospital.
 4:50- 5:10 "The Surgical Treatment of Pyloric Obstruction." George P. Muller, M.D., Jefferson Hospital.

Wednesday, Apr. 2, 1941

- 8:30 Round-table discussion on "Surgery on the Upper Part of the Abdomen." *Chairman*—George P. Muller, M.D.
 9:00- 9:20 "Aseptic and Antiseptic Nursery Technic in the Care of the Newborn." John P. Scott, M.D., University Hospital.
 9:20- 9:40 "Management of Nutrition in the First Year." Joseph Stokes, Jr., M.D., University Hospital.
 9:40-10:00 "Prevention and Treatment of Vitamin Deficiency Diseases in Children." Edward L. Bauer, M.D., Jefferson Hospital.
 10:00-10:30 "The Use of Diathermy, Short Wave, and Infra-Red Rays in Disease." William T. Johnson, M.D., Graduate Hospital.
 10:30-11:00 Intermission for review of exhibits.
 11:00-11:15 "Medical Management of Chronic Gallbladder Disease." William A. Swalm, M.D., Temple University Hospital.
 11:15-11:35 "Treatment of Acute Cholecystitis." Damon B. Pfeiffer, M.D., Lankenau Hospital.
 11:35-11:55 "Differential Diagnosis of Jaundice." Henry L. Bockus, M.D., Graduate Hospital.
 11:55-12:10 "Treatment of Hepatocellular Type of Jaundice." Henry J. Tumen, M.D., Graduate Hospital.
 12:10-12:30 "Preoperative and Postoperative Management of Jaundice." Isidor S. Ravdin, M.D., University Hospital.
 12:30- 1:30 Noon intermission.

Wednesday Afternoon

- 1:30- 1:50 "Contact Dermatitis (Dermatitis Venenata)." Edward R. Corson, M.D., Jefferson Hospital.
 1:50- 2:05 "Diagnosis and Treatment of Anterior Pituitary Disturbances." Michael G. Wohl, M.D., Temple University Hospital.
 2:05- 2:20 "The Roentgenologic Treatment of Pituitary Adenomas." Karl Kornblum, M.D., Jefferson Medical College.

- 2:20- 2:40 "Functional Amenorrhea and its Control." Charles Mazer, M.D., Mt. Sinai Hospital.
 2:40- 2:55 "Radiologic Treatment of Cancer of the Uterus." George E. Pfahler, M.D., Philadelphia General Hospital.
 2:55- 3:25 Intermission for review of exhibits.
 3:25- 3:45 "Neurosurgical Treatment of Some Painful Neurologic Conditions." Francis C. Grant, M.D., University Hospital.
 3:45- 4:05 "Differential Diagnosis of Pelvic Pain in Women." Robert A. Kimbrough, Jr., M.D., Pennsylvania Hospital.
 4:05- 4:35 "Modern Treatment of Asthma." Richard A. Kern, M.D., University Hospital.
 4:35- 5:05 "Geriatrics—New Light on Old Folks." Edward L. Bortz, M.D., Lankenau Hospital.
 7:00 Dinner, floor show, and dance—Bellevue-Stratford Hotel.

Thursday, Apr. 3, 1941

- 9:00- 9:20 "Management of Acute Laryngotracheobronchitis." Emily L. VanLoon, M.D., Woman's College Hospital.
 9:20- 9:40 "Therapy of Hypothyroid and Parathyroid Diseases." Edward Rose, M.D., University Hospital.
 9:40- 9:55 "Management of Ulcerative Colitis." J. Frederick Monaghan, M.D. (by invitation), Bryn Mawr Hospital.
 9:55-10:10 "Management of So-called Irritable Colon and Constipation." Russell S. Boles, M.D., Philadelphia General Hospital.
 10:10-10:30 "The Value of Psychoanalysis as Related to the Needs of the General Practitioner." Edward A. Strecker, M.D., Pennsylvania Hospital.
 10:30-11:00 Intermission for review of exhibits.
 11:00-11:20 "Management of Uterine Displacements and Associated Lesions." Charles A. Behney, M.D., University of Pennsylvania Medical School.
 11:20-11:40 "Specific Immunizations in Children." Pascal F. Lucchesi, M.D., Municipal Hospital.
 11:40-12:00 "Administrative Control of Communicable Diseases." George E. Johnson, M.D., Graduate Hospital.
 12:00-12:20 "Management of the So-called 'Acute Cold' in Children." James E. Bowman, M.D., St. Christopher's Hospital.
 12:20-12:40 "Treatment of Small Intestinal Disturbances by Drugs." Kendall A. Elsom, M.D., University of Pennsylvania Hospital.
 12:40- 1:40 Noon intermission.

Thursday Afternoon

- 1:40- 2:00 "Psoriasis." Carroll S. Wright, M.D., Temple University Hospital.
 2:00- 2:20 "The Use of Sulfanilamide in Surgical Infections." John S. Lockwood, M.D., University of Pennsylvania.
 2:20- 2:35 "The Radiologic Management of Infections." Eugene P. Pendergrass, M.D., University Hospital.

- 2:35- 3:00 "Recent Advances in the Treatment of Pneumonia." Charles L. Brown, M.D., Temple University Hospital.
- 3:00- 3:30 Intermission for review of exhibits.
- 3:30- 3:50 "Tinea with Particular Reference to the Hands and Feet." Joseph V. Klauder, M.D., Philadelphia General Hospital.
- 3:50- 4:10 "The Use and Abuse of Sedatives and the Barbiturates." Henry K. Mohler, M.D., Jefferson Medical College.
- 4:10- 4:40 "The Avitaminoses." K. O'Shea Elsom, M.D., Philadelphia General Hospital.
- 4:40- 5:00 "Practical Concepts of Mental Hygiene for Infants and Children." Ralph M. Tyson, M.D., Pennsylvania Hospital.
- 6:00 Buffet supper, entertainment, and visit to Devereux School. Transportation will be provided. Everyone invited to be a guest of the school.

Friday, Apr. 4, 1941

- 9:00- 9:20 "Treatment of Acute and Chronic Urticaria." Sigmund S. Greenbaum, M.D., Graduate Hospital.
- 9:20- 9:40 "Localized and Generalized Pruritus." Herman Beerman, M.D., University Hospital.
- 9:40-10:00 "Foot Problems in Infancy and Childhood." Charles R. Barr, M.D., St. Christopher's Hospital.
- 10:00-10:20 "Management of Vomiting in Early Childhood." Edward F. Burt, M.D., Jefferson Hospital.
- 10:20-10:35 "The Radiologic Management of Hodgkin's Disease, Lymphosarcoma, and Leukemia." W. Edward Chamberlain, M.D., Temple University Hospital.
- 10:35-11:05 Intermission for review of exhibits.
- 11:05-11:20 "Management of Gastritis." Harry Shay, M.D., Mt. Sinai Hospital.
- 11:20-11:40 "Gastric Neuroses." George M. Piersol, M.D., Graduate Hospital.
- 11:40-12:00 "Treatment of Tumors of Larynx and Hypopharynx." Louis H. Clerf, M.D., Jefferson Hospital.
- 12:00-12:20 "Acne Vulgaris." John B. Ludy, M.D., Pennsylvania Hospital.
- 12:20- 1:30 Noon intermission.

Friday Afternoon

- 1:30- 1:50 "The Treatment of Sterility in the Female." Brooke M. Anspach, M.D., Jefferson Medical College.
- 1:50- 2:10 "Treatment of Rheumatic Heart Disease." William D. Stroud, M.D., University of Pennsylvania Graduate School of Medicine.
- 2:10- 2:25 "Management of Colonic Diverticulosis and Diverticulitis." John H. Willard, M.D., Graduate Hospital.
- 2:25- 2:45 "The Treatment of Hay Fever." Louis Tuft, M.D., Temple University Hospital.
- 2:45- 3:10 "The Field of Male Hormone Therapy in General Medicine." Charles W. Dunn, M.D., Graduate Hospital.
- 3:10- 3:30 "Management and Treatment of Deafness." Douglas Macfarlan, M.D., Presbyterian Hospital.

WHAT IS A HOSPITAL?

Primarily, a hospital is a building in which nursing and medical care may be given in a more efficient manner than at home. Speaking bluntly, without physicians there could be no hospitals. Yet to a more or less increasing degree, the medical profession, which is the most important part of the hospital setup, has been subjugated to play a very minor rôle in determining the policies and practical administration of the hospitals. This is especially true in the larger centers.

A perusal of some recent literature seems to establish that the hospital is extending its direction to purely medical subjects. An excursion into the realms of the possible extent of such domination by the hospital boards over the medical profession would be classified as subversive activities by some of these boards. Certainly, the intrusion has increased markedly in the past 20 years; and if this is to continue, there will be as much obstruction to the private practice of medicine through this domination as through political regimentation.

The solution is easy in theory but difficult in practice. Insistence by the profession of its inherent right to supervise and direct all purely medical problems is essentially all that is necessary. Some of the reasons why it is difficult to establish this right may well be considered even though they may not be entirely uncontroversial.

Most physicians agree that a closed staff is fertile ground for spreading discord among the profession. At least in many cases hospital superintendents will play one staff member against another in order to persuade them into relinquishing some of their inherent rights. One very well-known physician stated not long ago that he had to take certain orders of a strictly professional matter from the superintendent of his hospital because if he refused he would be forced to resign and there were 10 others ready to step into his place. He realized that maintaining his practice depended to a considerable extent upon the legitimate "advertising" which his position automatically gave him.

It is well known that in those districts in which the physicians have insisted upon open staffs, and fought valiantly to retain the administration of medical problems through their county medical society, division of medical forces has not been possible and the profession has maintained its leadership in medical problems.

Another dangerous precedent is in allowing the appointment of the staff by the superintendent and his governing lay board. It seems uncontradictable that the profession should be able to select its medical leaders more intelligently than a lay board.

Another highly explosive factor is the free and the part-pay clinic. It is safe to say that in most instances the physician who is, after all, the one indispensable factor in providing the service has absolutely no control over what patients may be included, and often but little control over what the treatment should be.

Perhaps the solution is too complex for a local or state movement and it may be that the American Medical Association will be forced into promulgating some definitely constructed principles regarding the rights and privileges of the physician in the hospital.

The trend is dangerous and many besides the alarmists feel it has already reached a serious state.—*Journal of the Michigan State Medical Society.*

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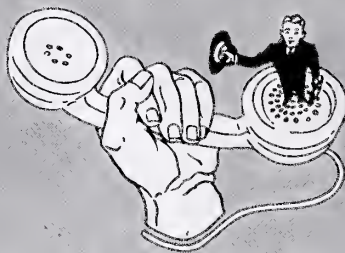
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COUNTY SOCIETY REPORTS

ALLEGHENY

Dec. 17, 1940

At the scientific meeting held at the Mellon Institute Auditorium, Pittsburgh, Andrew P. D'Zmura spoke on "Nondisabling Heart Conditions." A compendium of his paper follows:

Nondisabling Heart Conditions

In view of the current Selective Service Act, it may be well to recall some of the alterations in heart function and physical signs which may cause the patient and examining physicians to suspect organic heart disease when it is not present.

It is important to differentiate these changes for 2 main reasons. On the one hand is the obligation of the examining physicians to select only those men who are not likely to break down under modern war service; on the other hand, there is the obligation to the individual. If he has a definite cardiac disorder requiring moderate restriction of physical effort, and if more strenuous habitual efforts should be discontinued, he should become the problem of the family physician.

Potential heart disease includes men without heart disease whom it is advisable to follow because of the presence or history of an etiologic factor which might cause heart disease. In the presence of questionable signs or symptoms, the history, especially of past rheumatic fever, may be a factor in the final decision.

Men with possible heart disease are those with symptoms or signs referable to the heart but in whom a diagnosis of organic disease is uncertain. It is this group which will cause the greatest difficulty. Proof of the existence of a cardiovascular defect must be supported by objective evidence.

Defer Those with Nonorganic Disorders.—When the hemoglobin drops below 50 per cent and the red cells below 2,500,000 per cubic millimeter, palpitation, sinus tachycardia, dizziness, and mild insufficiency may convince the patient that he has heart disease. When the examiner hears the systolic murmur of relative mitral insufficiency or systolic murmurs at the pulmonic or aortic areas and notes the presence of an arrhythmia, he should remember that all the symptoms and signs may be abolished by treating the anemia. Men with these findings should be deferred for treatment by their family physicians and later re-examined; they should not be made cardiophobes by rejection without arranging for treatment.

When a young male of asthenic habits, following mental or physical effort, has unusual fatigability, excessive flushing and sweating, palpitation, dyspnea, fainting, and precordial pain and shows tremors, an increase in the heart rate, a forcible apex beat, and an elevated systolic blood pressure, hyperthyroidism or organic heart disease should not be diagnosed without good laboratory evidence. He most likely has neurocirculatory asthenia (synonyms for which are effort syndrome, disordered action of the heart, and "soldier's heart.")

The emotional upsets which can be expected when those with unstable nervous and vasomotor systems are

called to military service will precipitate and aggravate this state so that fearful individuals and anxious relatives will undoubtedly cause much trouble to examining physicians and draft boards. The official Selective Service regulations permit classification of neurocirculatory asthenia, if mild in degree, in Class 1-A; if severe, the registrant is placed in Class 4.

An individual may have only one or a few of the symptoms and signs enumerated for anemia and neurocirculatory asthenia. The symptoms are due not to heart disease but to temporary lack of tone and fitness. If the need becomes urgent, such men can be made fit by properly graded exercises. It is most desirable that this conditioning be done before induction into the army. Many men with murmurs will be given physicians' certificates in good faith because of inadequate knowledge of the significance of certain frequent murmurs. Such certificates will not be accepted, but examining physicians will satisfy themselves by their personal examinations as to the physical qualifications of the registrant. No statement will be accepted as proof of the existence of a cardiovascular defect unless supported by objective evidence.

"Anatomic Evaluation of the Symptoms of Syphilis of the Aorta" was presented by Joseph W. McMeans.

Thomas Evans, Jr., read a paper for general practitioners entitled "Atypical Symptomatology in Ectopic Pregnancy." An abstract of Dr. Evans' paper follows:

Atypical Symptomatology in Ectopic Pregnancy

This present effort does not pretend to contribute anything new to our knowledge of a condition which is actually more prevalent than is usually supposed. Various authorities have estimated its incidence as about one in 100 to 200 intra-uterine pregnancies.

A review of the symptomatology of tubal pregnancy might be of interest to the general practitioner, who is the one most often called upon to make the diagnosis and make available to the patient early surgery, which is the accepted treatment.

The conclusions which follow result from a study of 100 consecutive cases which were admitted at the Pittsburgh Hospital.

Textbook Symptomatology.—The classic picture of a case of ectopic pregnancy as given by most texts visualizes the following: A woman of childbearing age with a history of prolonged sterility encounters a period of amenorrhea. She then suddenly develops severe stabbing pain on one side or the other of the lower part of the abdomen or pelvis. She faints and exhibits all the symptoms of profound shock, i.e., rapid pulse, skin pallor, air hunger, etc. Such a tragic picture does occur in ectopic pregnancy where there is tubal rupture with profuse intra-abdominal hemorrhage such as is seen in pregnancies in the interstitial portion of the tube. In these cases the diagnosis can hardly be mistaken.

In Dr. Evans' experience, this type of case has been the exception.

The necessity for increased diagnostic accuracy is demonstrated by a study of his own cases. The prevention of prolonged morbidity is second only to de-

creased mortality in the care of ectopic pregnancy. In this series the average duration from the initial symptom to the time of operation was 29 days. One patient was operated upon within 2 hours; 6 patients within the first 6 hours. The most prolonged interval was 134 days, in which case, interestingly enough, a lithopedion was removed at operation.

Prolongation of the interval between the onset of symptoms and the establishment of diagnosis results in an increased proportion of error, since the chronologic order of the appearance of symptoms becomes confused after the passage of time and makes an accurate history difficult to obtain.

In this series the provisional preoperative diagnosis was correct in 71 cases. Incorrect diagnoses of pelvic inflammation, appendicitis, incomplete abortion, and ovarian cyst are most commonly made, followed in order by pelvic abscess and tumor, ureteral calculus, and cholecystitis. Each of the latter two occurred once.

An accurate history is of cardinal importance in establishing a diagnosis. Interrogation will reveal, in a small percentage of cases, a history of pelvic inflammation, septic abortion, etc.

A period of sterility was not a prominent feature in this series, there being more patients with a sterile period less than 4 years than patients with a sterility of longer than 4 years.

Nine of these cases had had previous ectopic pregnancies, which would indicate that the etiologic factor which results in an initial ectopic pregnancy will, in about one case in 11, cause a second ectopic pregnancy.

The number of preceding pregnancies seemed to have no influence on the occurrence of an ectopic pregnancy. In 18 cases there were no pregnancies antedating the ectopic pregnancy.

Matrimony is not a prerequisite. Several cases in this series occurred in young unmarried women. If one seeks, one very often elicits an exciting factor which initiates symptoms. This may be any form of physical exertion, ingestion of abortifacients, administration of enemas or douches, and not infrequently attempted induction of abortion.

Symptoms Encountered.—The cardinal symptoms of interrupted ectopic pregnancy are amenorrhea, pain, and vaginal bleeding. The period of amenorrhea in this series varied from 10 days to 60 days, two-thirds of the patients having an interval of 30 to 50 days from the last regular menstrual flow. Pain was an almost constant symptom, being absent in only 4 cases. The onset was sudden 4 times as often as it was gradual. The type of pain was lancinating in 68 cases, continuous and dull in 20 cases, crampy and intermittent in the remainder.

Location of the initial pain was in the lower abdomen and pelvis in two-thirds of the patients, generalized abdominal in one-fourth, and in the remaining few cases was upper abdominal or about the umbilicus. The pain was referred most frequently to the back and legs and to the shoulder. Shoulder pain occurred 11 times, and when it does occur is very suggestive, since it indicates subdiaphragmatic irritation with transmission through the phrenic pathways. The pain is less often referred to the rectum, umbilicus, epigastrium, and external genitalia.

Bleeding is less frequently encountered than pain, but was absent in only 20 cases. The bleeding may be a spotting, but slightly more often will approach the intensity of the average menstrual flow. The onset of bleeding may occur before, with, or after the beginning of pain, but usually precedes it.

Pelvic examination should be performed with a maximum of gentleness in order that further bleeding may not be provoked. This procedure will give valuable information and will serve to minimize the confusion of ectopic gestation with other abdominal conditions such as acute appendicitis. Pelvic examination will usually reveal discoloration of the mucous membranes, softening of the cervix, some enlargement of the fundus, and in a great majority of cases the presence of a pelvic mass. A pelvic mass was identified in 64 of 69 cases in which it was sought.

Pain on movement of the cervix is a valuable sign of ectopic pregnancy and was present in 94 per cent of this series. Temperature is important in differentiating this condition from infection. In 60 cases of these 100, it was below 99 F., and in only 9 cases was it above 100. The hematology is of some assistance in that it consistently shows an anemia of the secondary type, the red blood cell count being under 3½ million in about one-half of the cases, and the hemoglobin reading under 70 per cent in two-thirds of the cases.

Symptoms associated with severe shock were not a prominent feature in these cases. Faintness, pallor, and other evidences of shock were only one-half as common as were nausea and vomiting. Thirteen patients presented none of the above symptoms. The pulse rate in 79 cases was below 100, and in only 7 was it above 120 per minute.

Cardinal Symptoms.—In view of this experience, the typical picture of interrupted ectopic gestation is not as the one described at the beginning of this presentation, but is a variable one which emphasizes the following symptoms: (1) *pain*, which is present almost without exception and is sudden in onset and stabbing or lancinating in character, although it may be dull and continuous or occasionally cramplike; (2) *amenorrhea* in a woman whose periods have previously been regular; (3) *bleeding*, which may be spotting but more often approaches the intensity of a menstrual flow and occasionally is more profuse; (4) additional symptoms such as nausea, vomiting, faintness, pallor, and varying degrees of shock which, when present, are significant, but which are frequently not pronounced.

The most important asset in the establishment of an accurate and early diagnosis of tubal gestation is an awareness of the possibility of its occurrence in a woman of the childbearing age who presents any of the above symptoms.

Joseph A. Hepp opened the discussion of this paper.

John D. Singley spoke on "The Value of the Omentum in Abdominal Surgery, With Special Reference to the Free Omental Graft" and on "The Treatment of Operative Abdominal Incisions Without Dressings."

JOSEPH A. SOFFEL, *Reporter.*

BEAVER

Jan. 9, 1941

The society held its first meeting of the new year at the Beaver County Court House, Beaver, at 3:30 p. m. At the business session, among other items, the Medical Service Association developments in western Pennsylvania were discussed. It was suggested that those members who might have occasion to serve policyholders for obstetric and surgical work in hospitals fill out the proper forms for medical participation.

The scientific program was in charge of the Committee on Control of Syphilis, Andrew B. Cloak, chair-

man. A symposium on this subject was presented as follows:

George M. Durschinger read an essay on "The Cutaneous Manifestations of Syphilis."

Joseph A. Helfrich spoke on "The Relationship of Syphilis to Industry." In recent months, at the steel plant where he is attending surgeon, 800 serologic examinations have been made, representing about 20 per cent of the total number of employees, an unselected cross-section of the entire group. There were 4.9 per cent positive reactors, all of which were double-checked.

James L. Whitehill spoke on "Treatment of the Aged Syphilitic." He stressed how frequently individuals of this category are overtreated with arsenicals and other heavy metals, frequently with disastrous results. He outlined briefly the more conservative methods of treating such patients.

In the discussion it was brought out that the attitude of industry toward a syphilitic employee was that treatment was urged upon the individual already employed, but that an applicant for work would usually be turned down. This attitude apparently is fostered by the newer more stringent industrial regulations, which tend to make the obligations of industry rather extensive. It is not only conceivable but has actually happened that a syphilitic will develop neurologic manifestations following a more or less trivial injury and the company is forced to pay compensation because the patient made claim on the basis of the injury. It was also mentioned that with the new law in Pennsylvania requiring serologic examinations of individuals applying for marriage licenses, strict refusal to grant a certificate on the

basis of a positive test would not necessarily prevent marriage because the pair could go to an adjacent state. Leniency was suggested where the positive cases were considered to be noninfective.

JOHN H. GEMMELL, *Reporter.*

BLAIR

Jan. 28, 1941

The regular monthly meeting of the society was held in the Penn Alto Hotel in Altoona. The meeting was called to order by President Charles S. Hendricks. After disposing of the regular business, the speaker of the afternoon, Gerard H. Cox of New York City, was introduced. Dr. Cox spoke on "Plastic Surgery of the Face."

In opening his address, Dr. Cox stated that plastic surgery is a big subject and that he would confine his remarks and motion pictures to a few conditions which are commonly encountered in practice from time to time. These are (1) the removal of scars, (2) fractures of the nose and malar bones, (3) the correction of "saddle nose" deformities, (4) hump nose deformity, and (5) protruding ears, sometimes called "flop ears" or "donkey ears."

A patient comes to the office with a bad scar of the face, probably the result of an automobile accident some weeks before. At the time of the accident the patient may have had a bad concussion or even a fractured skull, and the surgeon is glad to be able to insert a few sutures quickly and get the patient to bed. Wait until 5 or 6 months after the injury to allow the tissues to adjust themselves to the scar formation and also to

For the Local Treatment of Acute Anterior URETHRITIS

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I. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," *Am. J. Syph. Gon. & Ven. Dis.*, 23, 201 (March) 1939.

*Silver Picrate, is a definite crystalline compound of silver and picric acid. It is available in the form of crystals and soluble trituration for the preparation of solutions, suppositories, water-soluble jelly, and powder for vaginal insufflation.

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avoid the possibility of a latent, deep-seated infection being present.

The ordinary flat scar can be repaired (after 6 months) by direct excision and approximation of the wound margins, making use of the subcuticular stitch. The steps of the operation are as follows:

1. Excise the scar tissue down to the fatty layer and get it all out.
2. Undermine the skin edges to eliminate tension.
3. Obliterate the dead spaces under the scar by suturing the deeper parts of the wound with 000 catgut on a fine needle. If the undermining of the skin and the suturing of the deeper layers are done properly, there is no tendency for the skin wound to spread post-operatively.

This work on scars is best performed with local anesthesia, infiltration with 1 or 2 per cent novocain to which 6 drops of 1-1000 adrenalin are added to the ounce of solution.

4. Suture the edges of the skin wound with a subcuticular stitch, using a Davis & Geck plastic suture with needle attached, size 6.0. This subcuticular stitch is removed in from 14 to 21 days, preferably 21 days.

5. One more step is necessary. Put in some very fine interrupted silk skin sutures which are allowed to remain for 36 hours only. Use a very fine needle and Deknatel moisture-proof silk, size "B." By using these fine interrupted sutures, if one skin edge at any particular point is on a lower level than its fellow, by taking a deeper bite with the needle on the low side, and a superficial bite with the needle on the high side, the skin edges are approximated in the same plane—an extremely important step. This same technic may also be employed in fresh wounds at the time of the accident and, if properly used, will, in many instances, do away with the necessity for secondary repair.

In operating for a depressed scar—for example, over the frontal sinus—the best tissue to use to fill in the deformity is fascia lata from the patient's thigh. This is superior to fat, which shrinks considerably, is easily infected, and when infected, melts away.

If there is a keloid present in the scar, to prevent recurrence start in with roentgen-ray treatments on the following operative excision.

Fractures of the nose may be caused by a comparatively light blow. The malar-zygomatic arch, on the contrary, must be subjected to a fairly heavy blow before a fracture is produced, as Dr. Cox recently demonstrated with a hammer in the Bellevue morgue. Fractures of the nose, as in the case of fractures elsewhere, may be simple or compound. In general there are 2 types of nasal fracture:

1. Where the blow is received in anteroposterior direction, and the nasal bones are driven backward like a wedge between the nasal processes of the superior maxillae which are spread laterally.

2. Where the traumatism is received from one side, as in a right-handed blow with the fist, the left nasal bone and perhaps the left nasal process are depressed. On the opposite or right side the right nasal bone is forced still further to the right and a convexity is produced. The nasal septum will probably be fractured or dislocated at the same time.

Dr. Cox has noticed a tendency on the part of attending physicians to order an immediate roentgenogram, and an inclination on their part to depend upon

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the radiographic diagnosis as to the necessity for operation. If the roentgenologist says the bones are in good position, many a surgeon thinks that is all that is necessary. As a matter of fact, a roentgenogram of the nose is very important, particularly from the medico-legal side. It should not, however, replace the clinical examination. What matters is *how the patient looks, not what the roentgen-ray report says.*

Perhaps inspection alone will make the diagnosis, especially if the patient is seen before extensive swelling supervenes. If the nose is gently palpated, crepitus may be detected. If much swelling is present, put on wet compresses and wait 2 or 3 days until the swelling subsides.

In children, Dr. Cox uses general anesthesia—ether, not gas—because he does not want the patient to come out of it in the middle of the operation. In adults, he uses local or general, usually local. If the latter is used, the interior of the nose should be cocaineized with 10 per cent cocaine in addition to the novocain infiltration.

If the patient is seen early, before much swelling is present, operate at once. Otherwise, apply wet dressings and wait 2 to 3 days for the swelling to subside. Dr. Cox has often reduced recent fractures of the nose after 12 to 14 days, although it is preferable to operate during the first week following injury. In general, he says: "I can reduce most recent fractures of the nose with a small periosteal elevator and my thumb. When you have a depressed, comminuted fracture of the nose and, after reduction are doubtful if the depressed fragments will remain in the normal position, a useful procedure is the following:

"Take 2 small oval pieces of lead plate about the

size of a dime, perforate each plate with 2 small holes, using a towel clip for this purpose. Put one plate on each side of the nose and pass a mattress suture from one side to the other, through the septum, and under the fractured bones. This method will support the dorsum of the nose and at the same time keep the nose narrow. Do not pack the nose after reduction, and do not put rubber tubes in the nostrils.

"In handling nasal deformities known as 'saddle nose deformities,' it is often necessary to refracture and narrow the nose before building up with a costal cartilage transplant. It should always be done from 4 to 6 weeks before the rib operation, and never at the same sitting, otherwise the cartilage transplant may become infected and slough out. The best substance with which to build up the depressed nose is the patient's own costal cartilage, which should be removed with a wood carver's gouge. Paraffin, preserved costal cartilage taken from the cadaver or from another patient, as well as ivory, are mentioned only to be condemned."

Dr. Cox's address was illustrated by lantern slides, in addition to which there were 2 colored motion pictures shown demonstrating the operative procedure for correction of "hump nose" and for the correction of "flopp ears."

After a discussion of the address, in which several members of the society participated, dinner was served in the Logan Room. Following dinner, a few words were spoken by the retiring president, Dr. Hendricks, and the in-coming president, Ralston O. Gettemy. At the conclusion of Dr. Gettemy's message of greeting, the meeting was adjourned.

R. MARVEL KEAGY, M.D., *Reporter.*

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DELAWARE

Jan. 9, 1941

The annual meeting and dinner of the society was held at the Chester Club, Chester, at 3:15 p.m. Augustus H. Clagett, retiring president, presided over the meeting for the election and induction of the following officers for 1941: President, Franklin E. Chamberlin, Glenolden; first vice-president, Walter A. Blair, Chester; second vice-president, Drury Hinton, Drexel Hill; secretary-treasurer, E. Wayne Egbert, Chester; editor, Duncan S. Hatton, Chester; reporter, Ruth E. Duffy, Elwyn. The following censors were elected: for 3 years, Harry B. Fuller, Lansdowne; for 2 years, Arthur G. Baker, Ridley Park; for one year, George L. Armitage, Chester. The following directors were elected: for 3 years, Russell G. Witman, Swarthmore, and Paul C. Crowther, Chester; for 2 years, Thomas J. Ryan, Drexel Hill, and Walter V. Emery, Chester; for one year, Charles S. Aitken, Brookline, and Carl A. Staub, Darby.

Following the business program, the Woman's Auxiliary joined the society for the social program. Dr. Clagett introduced Frank F. Hylands, D.D.S., Upper Darby, who showed "Movies of the Golden West" in technicolor.

At 5 p.m. dinner was served in the club's dining room.

RUTH E. DUFFY, Reporter.

LANCASTER

Jan. 8, 1941

The meeting of the Lancaster City and County Medical Society was held at the Little Theater, Franklin and Marshall College, Lancaster. Walter E. Dandy, of Johns Hopkins University Medical School, gave the scientific address, which may be summarized as follows:

Almost all that is known of brain tumors and their extirpation by surgery has been learned in the past 25 years. These are among the most common tumors.

They are not difficult to diagnose. They may or may not be localized before operation and all can be found. Their complete removal depends upon the nature of the tumor and its location. Operative mortality is not great except in the late stages of the disease. There are 2 sets of signs and symptoms; about 50 per cent of cases show localizing signs and the other 50 per cent show only increased intracranial pressure. In these, localization by air injection is important. Even gliomas, which are invasive tumors, are now removed from silent areas of the brain by mass dissection.

For the cure of brain tumors, the first requisite is early diagnosis and then complete extirpation on first attempt. The roentgen-ray examination is pathognomonic in 10 per cent of cases and is helpful in another 10 per cent.

Tumors in the dura show marked density in the bone at the site of tumor with first normal bone and then atrophic bone adjacent. They are supplied by arteries which become very large and show deep grooves on the inner table.

Included in a group of cases showing only localizing signs early, with generalized intracranial pressure later, is the acoustic neuroma. This is an encapsulated tumor involving the eighth nerve. The first symptom is unilateral deafness and the second a diminished corneal reflex from secondary involvement of the fifth cranial nerve.

There is almost no risk in early cases and the cure is permanent. In Dr. Dandy's last 50 cases, early and late a mortality of 11 per cent was reported. The facial nerve is usually sacrificed by surgery and a spino-facial anastomosis is done to compensate for it.

Also among the early localizing tumors are those arising from the hypophysis. A bone flap just under the frontal hair line is raised, and under avertin the tumor is curetted out followed by removal of its walls. Avertin does not cause brain swelling as ether used to do. If the tumor has grown forward, it may block the third ventricle; if backward, the aqueduct of Sylvius. In either case hydrocephalus results; in such cases the one optic nerve must often be cut, which is

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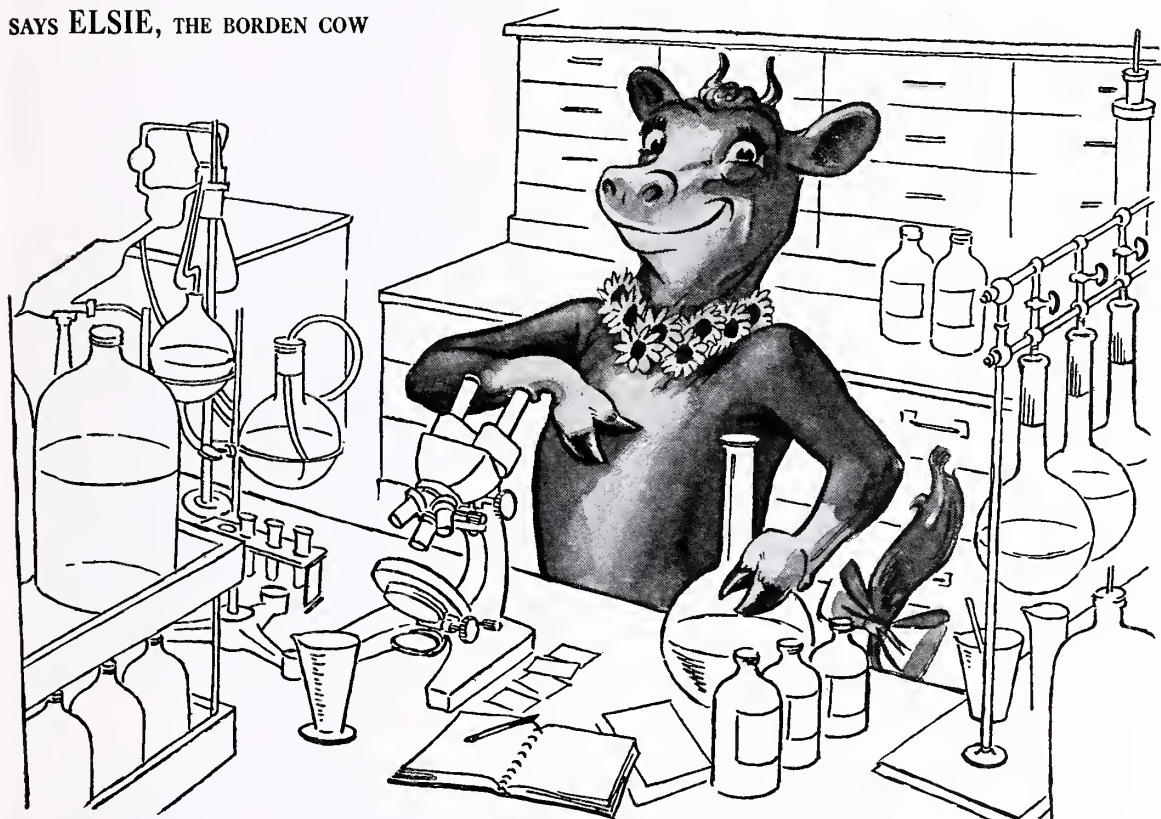
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not as bad as it sounds because it has usually ceased to function.

Tumors of the dura arising about the hypophysis do not produce hormonal disturbance, as do those of the hypophysis itself.

Olfactory groove tumors give as their first symptom the loss of smell; later they cause headache and blindness. They are too vascular to remove from under the frontal lobe by retraction, so resection of a portion of the frontal lobe is necessary. The tumors do not recur. Sometimes both frontal lobes must be removed. Six such cases showed no material mental damage.

Orbital tumors are sometimes thought to belong to the field of the ophthalmologist. Three-fourths of them do not, however, because of intracranial extension. The first sign is usually a unilateral exophthalmos. Dr. Dandy has removed 30 such tumors with one death. Unilateral third nerve palsy is another localizing sign, usually the result of aneurysm of the carotid artery at the base of the skull or in the cranial cavity. Surgery is a simple remedy. Eight cured cases were reported.

Exophthalmos plus pulsating veins on the forehead means an arteriovenous aneurysm. A bruit is heard. It is caused by trauma when the carotid artery ruptures into the ophthalmic vein. It is cured by tapping the arterial supply in the neck, and if thrombosis does not occur, ligation intracranially is done later. Fifteen per cent of these cases are bilateral because of a congenital communication across the cavernous sinus.

Large arteriovenous aneurysms on the brain producing epilepsy cannot be removed.

Air injection shows the position of tumors, which are otherwise not localized. They also show the position of tumors in cysts.

In closing, the importance of early diagnosis by early suspicion of an intracranial lesion was re-emphasized, also the great success which is now possible in finding and removing a brain tumor surgically.

Drs. Atlee and Hammers, of Lancaster, and Paul A. Kunkel, of Harrisburg, participated in the discussion. Dr. Kunkel recalled the fact that Dr. Dandy was the first to initiate the method of air injection as a diagnostic measure. *WILHELMINA S. SCOTT, Reporter.*

LEBANON

Jan. 16, 1941

About 35 members attended the annual banquet of the society, which was held at the Lebanon Country Club. Robert M. Wolff introduced the president, Paul S. Seabold, who turned over the gavel to Edward L. Jones, the president-elect. After Dr. Jones' expression of appreciation for the confidence of the members and his announcement of the standing committees for the coming year, Lieut. Col. Frank H. Dixon, Medical Corps, United States Army, was introduced.

Lieut. Col. Dixon is in charge of the hospital at the military reservation at Indiantown Gap. A 750-bed institution is under construction, and plans include a later expansion to 1000 beds. He spoke of the medical problems of the United States Army, past and present, and the fine co-operation of civilian doctors in emergencies. Even in the Revolutionary War there were 1400 medical officers. The Medical Officers Reserve Corps, founded in 1908, was the first Officers Reserve Corps to be founded. In World War I there were 50 base hospitals organized, mainly civilian in origin, and the first 6 of these to go abroad represented the first con-

crete aid to the Allies in that war from our country. After that war, the Army Reorganization Act of 1920 provided means for setting up medical stores in unit groups, so that now, when equipment for a hospital is wanted, it may all be ordered on one requisition, instead of requiring a separate order for each type of article. The time saved is obvious. At present, only a few of the base hospitals are in serviceable condition, but progress is being made rapidly. Last spring there were about 32 base hospitals organized, but about 100 more are planned. In the training camps, hospitals are being erected to provide for about 4½ to 5 per cent of the total camp population. Another of the problems is venereal disease control, but the speaker assured us that venereal diseases were no more prevalent than in a similar group of civilians.

The other speaker of the evening was C. Wm. Duncan, interviewer for the Philadelphia *Evening Public Ledger*, who gave "Close-ups of Famous Americans." He gave interesting side lights and anecdotes on such diverse personalities as Thomas E. Dewey, Frank Gannett, Wendell Willkie, Arthur H. Vandenberg, Paul V. McNutt, J. Edgar Hoover, Gaston B. Means, Ed Wynn, Ty Cobb, Babe Ruth, Dizzy Dean, and Knute Rockne, all of whom he has interviewed, and many of whom are or have been his personal friends. He considers the syndicated newspaper columnist and the after-dinner speaker the last strongholds of free speech, as radio commentators, editors, etc., are guided by sponsors and owners. After he concluded his speech, he answered questions from the group and then the meeting adjourned.

JOHN J. B. LIGHT, Reporter.

LUZERNE

Jan. 8, 1941

The regular meeting of the society was held with President Connoles presiding. The officers for the year 1941 are:

President, Joseph V. Connoles; vice-president, Frank D. Thomas; secretary, Lachlan M. Cattanch; financial secretary, John J. McHugh; treasurer, Boyd Dodson; director (3 years), Almon C. Hazlett; censor (3 years), Thomas R. Gagon; librarian, Lewis T. Buckman; editor, Herman A. Fischer, Jr.; reporter, Marjorie E. Reed.

Francis A. Blaum, White Haven, and Herman B. Datner, Wilkes-Barre, were elected to membership.

Edward Weiss, Philadelphia, gave an interesting talk on "The Renal Aspects of Hypertension." He said, in part, that hypertension is of great interest because of its morbidity and mortality. Deaths after age 50 are usually due to cardiovascular disease, and hypertension often precedes the cardiovascular-renal disease. One patient out of 4 has essential hypertension first. The knowledge of the subject has grown in leaps and bounds. Around 1630 Harvey gave the work on the circulation of the blood; about 1730 there was the discovery of the blood pressure phenomenon; and around 1830 Richard Bright in Guy's Hospital, England, studied persons with edema in the wards and found the cloudy precipitate of albumin by boiling urine. Then at postmortem the cases were studied and a granular condition of the kidneys was noted. Thus came the name of Bright's disease. Since 1930 Goldblatt, of Cleveland, produced hypertension in animals.

The concept of this condition came as a disease tied up with chronic kidney disease and arteriosclerosis.

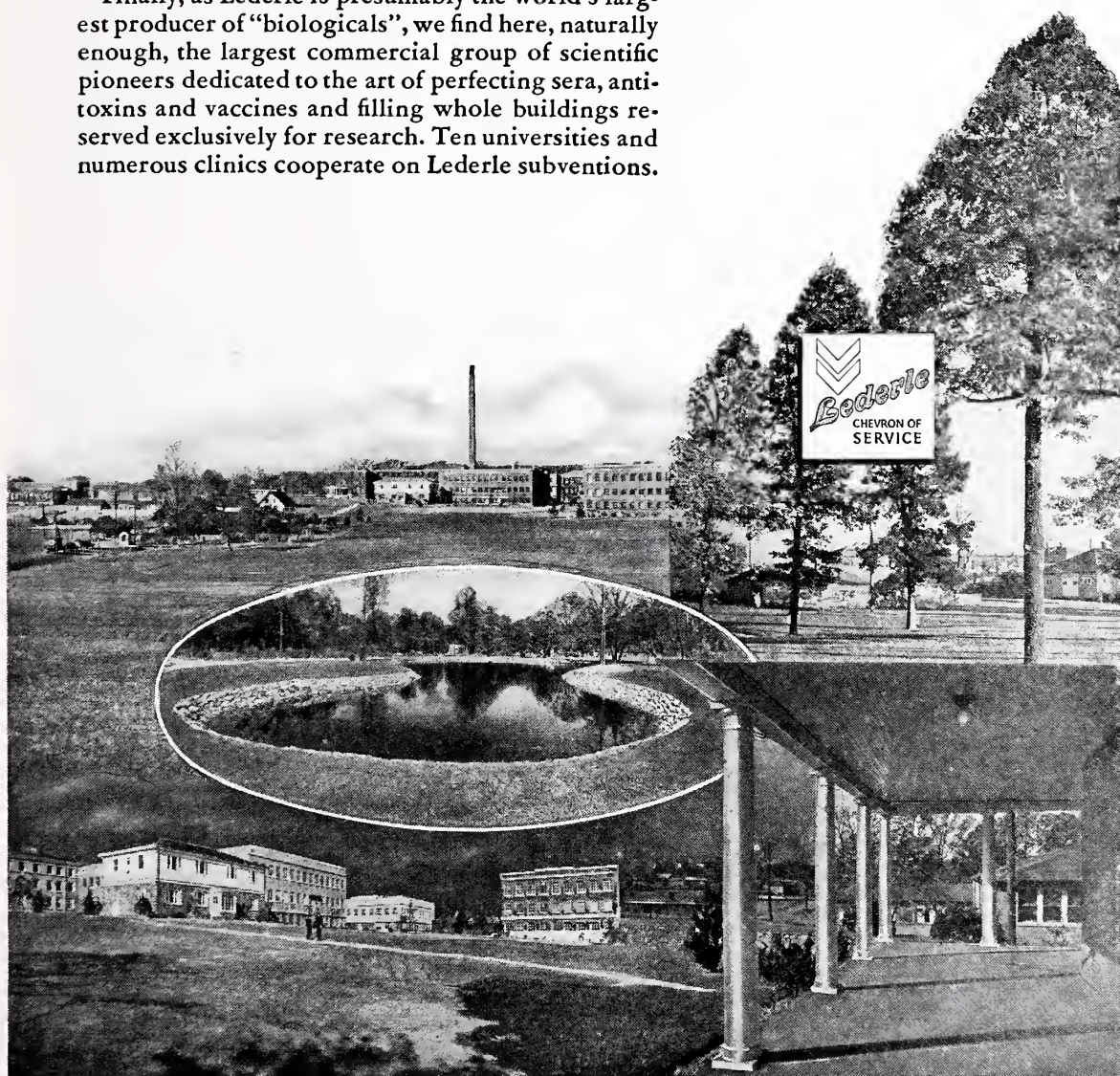
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Later the English and German pathologists gave the classification of 'chronic interstitial and parenchymatous nephritis and believed arteriosclerosis was responsible.

Clifford Albut in England and Janeway in the United States said that patients did not die of kidney disease and arteriosclerosis but from a vasospastic disorder. There are 2 renal functions, excretory and circulatory; the latter was discovered by Goldblatt in his experiments. He attempted to find out what caused a rise of blood pressure after the renal clamps were applied. He also worked on the endocrine organs and the sympathetic nervous system and found no elevation of pressure except in work with the adrenal gland.

The kidney is a central organ as far as hypertension is concerned and there is a pressor substance, as rennin, which is the mechanism behind hypertension. Goldblatt selected 100 cases of normals to study, also the same number of hypertension cases. The patients in the latter group who died had arteriosclerosis of the renal arteries and of the other organs, and those of the normal cases had much less arteriosclerosis. The question arises as to which comes first, hypertension or arteriosclerosis of the kidneys. In cases of eclampsia the patient in the early months is normal and very suddenly the pressure rises; albumin is found in the urine with vessel spasm of the eyes and a vasospasm, not arteriosclerosis.

A practical application is as follows: A middle-aged man is turned down for life insurance because of elevated blood pressure and albumin in the urine and he wants to know why. What is done with him? For the most part he is denied meats and eggs, as it is thought that protein has something to do with hypertension. The sources of infection are sought, and tonsils and teeth are removed. Tobacco and alcoholic drinks are stopped, and the patient is often told to give up his work. Often these patients are nearly frightened to death and begin to go down hill mentally and physically. They are being studied more for kidney disturbances. The majority of patients with essential hypertension do not have kidney disease. The physical aspects of the disease must be understood and the emotional aspect of the patient must be treated. The patient must be studied as a whole. There has been too much emphasis on bringing the blood pressure down. Emphasis must be placed on total medical care of the patient as for a gallbladder disorder, diabetes, etc., also emotional and psychic elements.

Sulfocyanate does reduce blood pressure, but it is tricky and toxic; the blood level must be determined frequently. Surgery has little place in the treatment and that only to increase the blood supply of the kidney.

In discussion, Edward I. Wolfe said that all physicians are guilty of using tricks to reduce blood pressure. He had a female patient, age 17, with a blood pressure of 260/140 and sulfocyanate was used. Concentrations were taken often and it was found that high concentrations were found in the blood even after the drug was stopped during the following week. What of the treatment with kidney extracts?

Gordon E. Baker said that blood pressure apparatus has done more harm than good as persons become disturbed by the elevation. The best result is obtained by treating the patient as a whole. He can then learn to live on a parallel with his disease.

Joseph J. Kocyan said that the blood pressure reading is valuable in obstetrics, and also in the menopause. The vasomotor system is important then.

Ralph L. Shanno said that there is an hereditary factor to hypertension. He had under his care in a clinic a family of 13—father, mother, and 11 children. The former died of strokes, and nearly all the children have hypertension and nothing can be found as the cause of it. Sulfocyanate is tricky, and must be checked often with blood concentrations. It takes 7 days for the blood to be eliminated in normal kidneys and longer when they are diseased. He has had no bad reactions in 50 cases, but all must be watched closely.

John F. Giering said he was interested in the surgical aspect of these cases and inquired as to the value of Pete's operation.

A question was asked regarding the use of high voltage current to relax the spasm and reduce the pressure.

Dr. Weiss, in closing, said that the question of the hypertensive state versus the disease is the first one in a group of disorders and is good thinking, but efforts so far have not been very productive. Renal extracts may sometimes be used to good advantage.

Dr. Weiss had an unfortunate experience with the removal of a kidney in a patient with hypertension. At operation 2 years ago a kidney stone was found, also a nonfunctioning kidney; the other was all right. For awhile the pressure was improved, but last August the patient died and it was found that the hypertensive vascular disease had been present since the operation.

Objections are made to over use of blood pressure apparatus, but observations must also be made with the ophthalmoscope noting the eyeground changes. Pregnancy must be interrupted in these cases because it causes more vascular damage.

It is generally believed that the negro does not have

a hypertensive constitution. Two observers in a Texas clinic found that the southern negro had hypertension $2\frac{1}{2}$ times as often as the southern white. The African tribes have slight hypertension, and so the increase must be from association with civilization. Severe benign and malignant hypertension are not sharply defined. Nothing can be done to stop the progress of the latter. If surgery is to be done, do Pete's operation, as it is the least harmful. High voltage current is no more beneficial than other treatment. It serves to perpetuate the neurosis of the patient and the purpose is to reduce neurosis. One cannot miraculously cure hypertension.

MARJORIE E. REED, *Reporter*.

LUZERNE (HAZLETON BRANCH)

Jan. 22, 1941

A regular meeting was held at the Altamont Hotel in Hazleton, with President Joseph A. Alexis presiding. Following the business session, Frank R. Hanlon, of Wilkes-Barre, gave a very fine talk on "Gynecologic Surgery." Essentially and in part his talk was as follows:

Physicians not infrequently encounter an abdominal emergency requiring a safe degree of differentiation; e. g., to distinguish acute appendicitis from a ruptured ectopic pregnancy, from acute salpingitis, or from an ovarian cyst with a twisted pedicle. The ruptured ectopic will usually present a history of a missed or altered menstrual period, spotting, and sudden severe pain. Fever is rare. Make certain of an adequate history to avoid an inaccurate diagnosis. Pelvic ex-

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amination is to be made in all such cases and will almost invariably reveal a cervix painful on movement. Treatment includes combating existing shock and giving appropriate surgical treatment.

The patient with an ovarian cyst having a twisted pedicle is acutely ill and seeks advice early. Here again the treatment is surgical.

Patients with acute salpingitis are not as numerous as they were during former years. Here conservative measures give the best results.

The fibromyoma, one of the uterine tumors, will vary considerably in size and may concentrate itself in any of the 3 coats. This tumor frequently undergoes degeneration of one kind or another and may even become calcified. It is possible for such a tumor to attach itself to the omentum and establish a new circulation and float free from the uterus. Such a phenomenon may cause torsion of the omentum.

Symptomatically, the fibromyomas make it possible to classify 3 types of patients: (1) those with no symptoms whatsoever; (2) those with bleeding only; and (3) those who complain of pelvic pain and pressure. Such tumors show a definite relationship to sterility.

Treatment for the fibromyomas consists of roentgen ray or radium in selected cases, and myomectomy for the smaller fibromyoma. Hysterectomy is recommended when the tumor is large or multiple in character. This procedure may be total or subtotal. The total is the most satisfactory method to employ because of the danger from subsequent malignancy developing in the cervical stump. Hence, if necessary, a two-stage operation should be done in order to remove the entire uterus. Frequent complications of this operation are embolism, pelvic cellulitis, phlebitis, and bladder fistula.

Malignancy of the uterus is found to occur about 8 times more frequently in the cervix than in the body. Such cervical lesions as erosion, eversion, cystic degeneration, and laceration are treated by amputation, repair, and cauterization, according to the demands of the existing situation.

NATHAN SUSSMAN, *Reporter.*

LYCOMING

Jan. 10, 1941

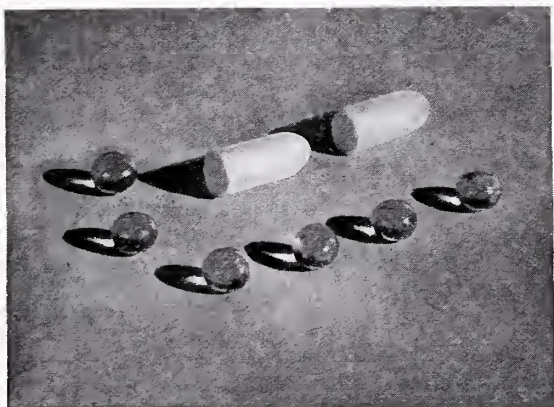
The first meeting of the society in 1941 was held in Medical Hall at the Williamsport Hospital. Frederic C. Lechner, retiring president, opened the meeting. After a discussion of routine business, the following members were elected to office: President, F. Raymond Adams; first vice-president, P. Harold Decker; second vice-president, George W. Muffy; secretary, Stuart B. Gibson; treasurer, LaRue M. Hoffman; editor, Walter S. Brenholtz; reporter, Edward Lyon, Jr.; librarian, Wesley F. Kunkle; assistant librarian, Harry W. Buzzerd; trustees, Louis E. Audet and Harold L. Tonkin.

Following the election, Dr. Adams was escorted to the chair by 3 of the former presidents of the society, and conducted the meeting from that time on.

J. Stanley Smith, chairman of the Program Committee, then introduced W. Wayne Babcock, of Philadelphia, who spoke on "Modern Surgical Technic." During the past few years Dr. Babcock has learned the value of colored slides in teaching, and his talk was illustrated with many photographs of lesions and of the operations performed to relieve them. Because of his constant use of slides, it is impossible to report his talk in detail; the subject matter ranged from the treatment

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¹ Sevringhaus, E. L., and Evans, J. S.: *Am. J. M. Sc.* 178:638, Nov. 1929.

² Novak, Emil: *Surg. Gynec. & Obst.* 70:124, Jan. 1940.

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of hemangiomas to abdominal operations. Dr. Babcock's descriptions are always noteworthy as well as precise, and he showed clearly the remarkable inventiveness and resourcefulness with which he approaches each surgical problem. It is sincerely regretted that this talk cannot be described in detail. It was one of the outstanding presentations that we have listened to during the past 5 years, and the interest of the men was manifested by the number of questions they asked following the discussion.

In the evening the annual banquet was held at the Lycoming Hotel. Lee M. Goodman, of Jersey Shore, served as toastmaster and introduced the speakers in his own inimitable fashion. We were honored by having as our guests Nathan B. Van Etten, president of the American Medical Association, and Francis F. Borzell, president of The Medical Society of the State of Pennsylvania. It was indeed a banner occasion for this society, which is now entering its ninety-third year, and one that will be long remembered.

Following the dinner, Dr. Van Etten spoke concerning "The Recent Trends of Medical Practice." His talk displayed clearly that in this vigorous man we have an able, conscientious leader. We are extremely grateful to Dr. Van Etten, for it is seldom that a man as busy as he is able to attend county society meetings.

Dr. Borzell then spoke, and as always we were pleased and happy to have him with us. The new demands of national defense have placed a double burden upon the physicians, for it means more work for those who remain at home and a distinct personal financial sacrifice on the part of those who are called to active duty.

Dr. Babcock spoke of his pleasure in being with us again. It is our hope that these men found as much pleasure in their visit to Williamsport as they gave us by their coming.

Dr. Adams, in assuming the presidency for the ensuing year, spoke of the problems which confront us, particularly those associated with the local indigent groups. These problems are far from a solution, and yet we are proud to state that in no instance has an indigent suffered from lack of medical care in Lycoming County if he has sought proper medical help.

The Lycoming County Medical Society, having closed one of the most successful years since its organization, joins with the rest of the organized medical profession in viewing the uncertain paths which lie before us with sincere faith that the medical profession will not be found wanting in the fulfillment of any of its many obligations.

EDWARD LYON, JR., *Reporter.*

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Norristown, Pa.)



MONTGOMERY

Jan. 8, 1941

The regular meeting was held at Norristown, with 40 members present. All committees reported progress, including the Woman's Auxiliary. The Society Building is free of debt, but it costs each member a penny a day to run it. The average allocation for medical relief for the year covered only 65 per cent of the service rendered. The hospital intern situation is becoming critical. In 1939-40 forty hospitals in the state were short 122 interns, due to various restrictions, and the situation is expected to get worse.

George R. Irwin was inducted into office as president for 1941, and George L. Hoffman was chosen president-elect. The retiring president, Henry D. Reed, delivered his presidential address in which he said: "Considering the long course of medical training with its great cost, we realize the plight of the average medical student of today. Is it not true today that the medical aspirant must either be a child of the '400' or else mortgage himself, loving relatives, and friends in a back-breaking debt? We wonder, indeed, that priestly celibacy has not been advanced as another requirement, for we must admit that emerging as a self-sustaining individual in the rapidly approaching forties with a bundle of debts has a chilling family effect. With these long years of preparation and staggering costs, are we not ultimately inviting government support and control of students? We find developments, therefore, in the present state of medical education which are calling for thorough, open-minded investigation and change, and which should be admitted and remedied by educators and responsible officials in medicine."

WALLACE W. DILL, *Reporter.*

SOMERSET

Jan. 21, 1941

The society met in regular session at the Ferner Hotel in Somerset, at which time the members of the Woman's Auxiliary joined the county society members at dinner.

After the dinner the medical society and the auxiliary met separately. The main activities of the medical society at this meeting were the presentation of the reports of officers and committees covering the work of 1940.

Among the items discussed were threatening legislation, illegal practitioners in the county, and inadequate allotments for services to the indigent. Appropriate resolutions and acts by motion covering these matters were passed.

The officers for the year 1941 assumed their offices and we look forward to another pleasant and prosperous year under their guidance and management.

After adjournment a brief medical I. Q. quiz was held, which was both amusing and instructive.

BRADLEY H. HOKE, *Secretary.*

VENANGO

Jan. 17, 1941

The regular meeting of the society was held at Franklin with President Donovan C. Blanchard presiding. Dr. Blanchard opened the meeting and then formally passed the authority to the president-elect, Cecil H. Hodgkinson, of Oil City. The secretary-treasurer-elect, Harry H. Lamb, tendered his resignation, and Norman K. Beals, of Franklin, was nominated and unanimously elected to fill the vacancy. William

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F. Brehm, reporter, tendered his resignation from that position because he is called for one year's military service in the near future. A resolution was passed to rescind the payment of all dues by physicians of this society who have been called to military service. A discussion was held concerning the practices of those physicians called into military service, and it was resolved that these physicians would be permitted to make special individual arrangements with one or more physicians to serve their patients on a prearranged financial basis.

The scientific meeting was given over to a discussion of "Arterial Vascular Diseases of the Extremities." Bernard E. Lachman, of Oil City, discussed the topic and said in brief: The subject of vascular diseases has become increasingly important because more people live to the ages in which these diseases are found. Early diagnosis of the condition is important, so that treatment may be instituted and thus prevent the loss of all or part of an extremity.

These patients usually complain of weakness, numbness, tingling, and prolonged coldness, which is usually exaggerated by exercise. Generally, the arterial vascular diseases can be classified as (a) functional, or vasomotor disease, and (b) organic, or obliterative disease. Differential diagnosis is not difficult with the use of a skin temperature thermometer, spinal anesthesia, roentgen ray of the limbs, and palpation of the dorsalis pedis artery.

Speaking of treatment, Dr. Lachman stated that the outlook for patients with arterial disease is not quite as dark as it used to be, as the diagnosis is frequently made earlier than formerly, and specific exercises and

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FREDERICK T. SEWARD, M.D., and CLARENCE A. POTTER, M.D., Resident Physicians

the positive-negative pressure boot have alleviated the symptoms and prevented the condition from progressing so rapidly.

WILLIAM F. BREHM, *Reporter*.

WARREN

Jan. 20, 1941

The annual meeting was held at the Conewango Club, Warren; 34 members and 2 guests were in attendance. Secretary Beng's report showed an active year. There was an average monthly attendance of 62 per cent of the membership. Thanks to the program committee, a number of prominent teachers made the meetings interesting.

The election of officers resulted as follows: President, Thomas K. Larson, Warren; first vice-president, John E. Thompson, Youngsville; second vice-president, Leonard Rosenzweig, Warren; secretary and treasurer, Hilding A. Bengs, Warren.

The retiring president, A. Follmer Yerg, chose for his address "General Observations About Injuries of the Cervical Spine." He showed that such injuries may be more serious than are at first apparent. Horizontal traction is important. The anterior longitudinal ligament has a great tensile strength and will stand strong traction or pull. First aid must be given with great caution. The patient's head and neck should be carefully supported and adequate help assured in lifting the patient. Careful neurologic and radiologic examinations are necessary to outline the nature of the injury. Morphine should be avoided so as not to mask the sensory area. Hyperextension in a straight line with considerable traction should be begun as soon as possible. Later, operative measures may have to be resorted to; for example, laminectomy.

Convalescence is slow and patients with fractures or displacements of the cervical vertebrae should not be allowed to return to work for a year or more. The symptoms likely to occur from injuries to the various regions of the cervical spine were outlined. These injuries are becoming more common because of the

automobile, but with proper attention may be handled with success. A case with 5 vertebrae dislocated followed by recovery was reported.

Dinner followed the meeting.

MICHAEL V. BALL, *Reporter*.

YORK

Jan. 18, 1941

President Herman A. Gailey presided at the regular meeting of the society held in York.

Joseph A. Cammarata, assistant superintendent of the State Hospital for Mental Diseases at Danville, spoke on "The Diagnosis and Treatment of the Common Neuroses and Psychoneuroses." He said in part:

Psychoneurosis is a disorder of personality, characterized by symptoms unknown to the patient, but manifest by aberrations in the personality of the patient, as delusions, hallucinations, etc. Psychoses are a total reaction; there is no appreciable change in the outward appearance of the patient, but there is incoherence, flighty ideas, etc. There is a conflict between desires and wishes and the person's standards of morals and character. In both psychosis and psychoneurosis the patients seek a refuge from intolerable situations which they are unable to face.

There are 3 types of psychoneuroses—neurasthenia, psychasthenia, and hysteria.

Neurasthenia.—In this type, formerly supposed to be a weakness of nerves, the disease is characterized by certain fundamental symptoms, particularly easy fatigability, restlessness, irritability, difficulty in concentration, hypochondriacal complaints, varied and many, headache, spots before the eyes, but notably a tendency to exhaustion without organic basis.

Psychasthenia.—In this type there are abnormal doubts, obsessions, and compulsions, but particularly abnormal doubts, which are repeated and about trivial matters. Such things as the "washing mania" and "failure to close the door," etc., are noted. In psy-

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chasthenia the patient is serious-minded, puritanical, and straight-laced.

Hysteria.—In this type we find an unstable, volatile, alternately crying and laughing, temperamental person. Such conditions as aphonia, unilateral blindness, areas of anesthesia, convulsions, these without organic basis, are often seen. A hysterical person can be brought from his supposed attack by eliciting pain. In the hysterical patient the area of anesthesia stops sharply in the midline of the body. In paralysis, associated with hysteria, there is never a complete loss of reflexes, although occasionally ankle clonus is present. The convulsions of hysteria imitate epilepsy poorly and are noted for grotesque contortions and atypical movements. The patient resists. Hysterical psychasthenia represents the conversion of fundamental desires to self-imposed punishment to gratify these desires. The hysteric makes a poor wife and a worse husband. One must differentiate a psychosis from malingering. A psychosis is unintentional, but a malingering is a conscious and intentional matter. The psychoneurotic welcomes examination, but the malingerer detests an examination for fear his trouble may be discovered.

Since neurasthenia is characterized by exhaustion, one must differentiate this disease from pulmonary tuberculosis, diabetes mellitus in young people, myasthenia gravis, etc. The psychasthenic has foolish ideas which he is unable to overcome, and this idea is not true to fact, but he has an implicit faith in this idea. In obsessions the patient knows the idea is unreal to begin with. The condition must also be differentiated from manic-depressive psychosis in which there is evidence of difficulty in thinking. It should be differentiated from dementia praecox in which there are

accusing voices and alterations in the form of speech; also from melancholia, characterized by insomnia, anorexia, restlessness, and agitated depression.

In the treatment of a case of psychoneurosis, give a thorough clinical and physical examination. The examiner must not look upon the symptoms as imaginary, but should adopt a receptive attitude. After ruling out physical disorders, he should observe the mental symptoms. He should try to gain the confidence of the patient, understand the conflicts, the frustrations, and the hopes gone astray, plus the sex problems. The physician listens to all of these in the light of the patient's personality and tries to bring about in the patient a will to readjust himself to the realities of life, since the symptoms of the psychoneurotic are real to him.

In discussion, Milton H. Cohen said that many psychoneuroses are poorly handled because most physicians must have real pathology. In prison work the problem is fraught with great difficulty. He asked if the chronic alcoholic is a psychoneurotic or one whose somatic nervous system is disordered?

Beulah Sundell asked the speaker if he has many patients who suffer convulsions at the time of the menopause; if so, are these convulsions organic or functional?

Harry B. Thomas asked if there is not something basically wrong with the complex of persons suffering neurasthenia. Is it not true that the physician is frequently unable to rationalize the symptoms of the complainant, with the result that the diagnosis and treatment are generally poor? Is there fever in true hysteria? Charles L. Fackler asked what effect the bombing of civilian (European) people has had on nervous diseases up to this time.



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In this concise manner, Nicholas Appert, discoverer of canning, summed up the salient features of his procedure. Appert's method consisted of sealing prepared foods in wide mouth glass bottles with corks and processing the sealed bottles in a bath of boiling water. The first English edition of his book (1) describes Appert's procedures for some fifty products. While the times of his heat processes varied between products, the temperatures of the processes were uniformly that of boiling water.

After the spread of commercial canning to America, early canners soon found that spoilage frequently resulted when Appert's heat processes were employed. Increasing the time of process at 212°F. alleviated but did not entirely control this difficulty. As recently described (2a), attempts were next made to increase the temperature of process, either by the addition of soluble salts to raise the boiling point of water, or by the use of the autoclave which permitted processing under steam pressure at temperatures above 212°F. About 1874, an improved type of autoclave was invented in the United States and gradually came into general use for certain types of products. While this device reduced spoilage considerably, losses still occasionally resulted due to inadequate heat processing.

Between 1895 and 1900, the new-born science of bacteriology was first applied to

the canning industry. These early discoveries are well described elsewhere (2, 3); important among the findings was the fact that for products most favorable for growth of spoilage organisms, there is a minimum time of process which must be applied at a given temperature for a given can size, if preservation of the food is to be assured. The need for standardization of heat processes was thus clearly indicated.

During the past twenty years, the heat processing of canned foods has truly been placed on a sound scientific basis (4, 2b). The natural acidity of the food now determines the process temperature to be used. Foods with pH values below 4.5 may be safely processed at 212°F. or below; the "non-acid" foods with pH values above 4.5 require elevated process temperatures, 240°F. being the temperature most widely employed.

Today, adequate heat processes for non-acid foods are mathematically calculated using data which take into consideration all factors influencing the sterilizing value of a process. Processes thus calculated are thoroughly tested before being incorporated into bulletins of recommended processes which modern canners follow (5).

This establishment of adequate heat processes—particularly for the non-acid foods—is one of the greatest advances in canning technology made in the history of the industry. Today, it is apparent that the success of many of Appert's heat processes was due to fortuitous circumstances. The modern consumer, however, has the assurance that commercially canned foods are among the most wholesome foods reaching his table.

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- (5) 1939. National Canners Assoc., Bulletin 26-L, Fourth Edition.

We want to make this series valuable to you, so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned-foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles. This is the sixty-ninth in a series which summarizes, for your convenience, the conclusions about canned foods reached by authorities in nutritional research.



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Dr. Cammarata, in closing, said that the alcoholic problem must be judged from 3 viewpoints: (1) Alcohol may be a means of refuge from the fundamental problems in life—a chemical refuge in neurasthenia. (2) Alcoholism may be a symptom of a manic psychosis. (3) Alcoholism is characteristic of a paretic. (4) Alcoholism may be part of a homosexual make-up, whereby alcohol causes the person to express himself or breaks down the barriers. Alcoholism is not just a vice but an expression of something wrong in the psychic structure. (5) Alcoholism may be a compulsive phenomenon; there is no desire for the taste or the intoxicating result, and the alcoholic is often fundamentally a psychopathic personality.

Convulsions appearing for the first time after age 30 are not epileptic; epilepsy appears before pubescence and stops at the time of the menopause. After age 30, convulsions are due to such conditions as brain tumor, paresis, or syphilis of the brain, and after age 40 to cerebral arteriosclerosis, chronic intoxications, or pre-senility. Convulsions may be found in mental defectives before age 40.

As to the cause of neurasthenia, there is no one single factor, but there are 3 main types of causes—hereditary, dispositional, and precipitative.

Since the beginning of the war, the psychoneuroses are fewer in number, according to the best information, but after the war the mental health of civilians will probably be a different story.

JOHN J. CONROY, *Reporter.*

AMERICAN COLLEGE OF SURGEONS TO HOLD SECTIONAL MEETING IN PITTSBURGH

Mar. 17, 18, and 19 have been set as the dates for a Sectional Meeting of the American College of Surgeons in which the states of Pennsylvania, Ohio, Virginia, West Virginia, Delaware, Maryland, New Jersey, New York, and District of Columbia will participate. Headquarters will be at the Hotel William Penn in Pittsburgh.

The 21 approved hospitals of Pittsburgh will provide an excellent clinical background for the college meeting. Many of them will hold operative and nonoperative clinics each morning during the meeting, and will also hold demonstrations of hospital procedures for the hospital executives who will attend the hospital conference which will also be sponsored by the college during the same 3 days.

Distinguished surgeons from all parts of the country will address the scientific sessions and lead the conferences and panel discussions. Among them will be the president of the college, Dr. Evarts A. Graham, professor of surgery at Washington University Medical School, St. Louis. At the headquarters hotel there will be educational and scientific exhibits and the showing of motion pictures portraying surgical and hospital procedures. Daily bulletins will be issued listing the various clinics, sessions, conferences, and other events of each day. A large public meeting on the subject of "Conservation of Health" on the evening of the third day will be the final feature.

The Committee on Local Arrangements consists of Dr. Otto C. Gaub, chairman; Dr. Frank R. Bailey, vice-chairman; Dr. Nelson P. Davis, vice-chairman; and Dr. John W. Stinson, secretary. The chairman of the subcommittee on clinics is Dr. John H. Alexander; on program, Dr. Grover C. Weil; on cancer, Dr. James R. Johnston; on fractures, Dr. William O. Sherman; on exhibits, Dr. Samuel R. Haythorn; on the meeting on health conservation, Dr. Merle R. Hoon; on public relations, Dr. J. Huber Wagner; on reception and entertainment, Dr. Lyndon H. Landon; on speaking equipment and motion pictures, Dr. Harold G. Kuehner; and on transportation and hotels, Dr. Joseph A. Soffel.

The medical profession at large, as well as hospital trustees, superintendents, pathologists, dietitians, and other hospital executive personnel, are invited to attend the sessions of the Sectional Meeting and the Hospital Conference, a sufficiently varied program having been arranged to interest members of the several professions which are concerned with service to the sick and injured.

A general outline of the program follows:

Monday, Mar. 17

- 7:30- 8:30 Registration and general information.
- 8:30-11:00 Operative clinics—general surgery and the surgical specialties.
- 10:00-12:30 Hospital conference.
- 11:00-12:30 Nonoperative clinics—general surgery and the surgical specialties.
- 12:30- 1:30 Medical motion pictures—general surgery.
- 1:30- 3:00 Panel discussions (5).
- 2:00- 5:00 Hospital conference.
- 3:00- 5:00 Medical motion pictures—eye, ear, nose, and throat surgery.
- 3:30- 5:00 Panel discussions (3).
- 5:00- 5:30 Meeting of Fellows.



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HYDROTHERAPY

Elizabeth McLaughry, M.D. — Elizabeth Veach, M.D.

- 5:30- 6:00 Meetings—state executive committees, state credentials committees, and state judiciary committees.
- 7:00- 8:00 Medical motion pictures—general surgery, and eye, ear, nose, and throat surgery.
- 8:00-10:00 Scientific meetings—general surgery, eye surgery, and ear, nose, and throat surgery.
- 8:00-10:00 Hospital conference.

Tuesday, Mar. 18

- 7:30- 8:30 Registration and general information.
- 7:45- 9:30 Hospital breakfast conference.
- 8:30-11:00 Operative clinics—general surgery and the surgical specialties.
- 10:00-12:30 Hospital conference.
- 11:00-12:30 Nonoperative clinics—general surgery and the surgical specialties.
- 12:30- 1:30 Medical motion pictures—general surgery.
- 12:30- 2:00 Luncheon, governors of the college.
- 1:30- 3:00 Panel discussions (5).
- 2:00- 5:00 Hospital conference.
- 3:00- 6:00 Medical motion pictures—eye, ear, nose, and throat surgery.
- 3:30- 5:00 Panel discussions (3).
- 5:00- 6:00 Medical motion pictures—general surgery.
- 7:00- 8:00 Medical motion pictures—general surgery, and eye, ear, nose, and throat surgery.
- 8:00-10:00 Scientific meetings—general surgery, and eye, ear, nose, and throat surgery.
- 8:00-10:00 Motion pictures for hospital personnel.

Wednesday, Mar. 19

- 7:30- 8:30 Registration and general information.
- 7:45- 9:30 Hospital breakfast conference.
- 8:30-11:00 Operative clinics—eye, ear, nose, and throat surgery.
- 9:00-11:00 Fracture clinic.
- 9:00-12:00 Cancer clinic.
- 10:00-12:30 Hospital conference.
- 11:00-12:00 Conference of state fracture committees.
- 11:00-12:30 Nonoperative clinics—eye, ear, nose, and throat surgery.
- 12:30- 1:30 Medical motion pictures—general surgery.
- 1:30- 3:00 Panel discussions (3).
- 2:00- 5:00 Hospital conference.
- 2:00- 6:00 Medical motion pictures—eye, ear, nose, and throat surgery.
- 3:30- 5:00 Panel discussions (3).
- 5:00- 6:00 Medical motion pictures—general surgery.
- 7:00-10:00 Medical motion pictures—general surgery.
- 8:00-10:00 Meeting on health conservation.

Among the speakers at the evening sessions and the leaders and collaborators in panel discussions will be Drs. Robert H. Kennedy, John Scudder, and Paul M. Wood, of New York City; Dr. E. Jefferson Browder, of Brooklyn; Dr. Samuel A. Cosgrove, of Jersey City; Dr. Hugh H. Trout, of Roanoke; Dr. Edwin C. Hamblen, of Durham, N. C.; Drs. George P. Muller, Eldridge L. Eliason, and Gilson Colby Engel, of Philadelphia; Dr. John L. Atlee, Jr., of Lancaster; Dr. Arthur G. Davis, of Erie; Dr. Charles Bagley, Jr., of Baltimore; Dr. John O. Rankin, of Wheeling; Drs. Charles C. Higgins, Donald M. Glover, and George W. Crile, Jr., of Cleveland; Dr. Alton Ochsner, of New Orleans; Dr. James B. Brown, of St. Louis; Drs. Alfred W. Adson and John de J. Pemberton, of Rochester, Minn.; Dr. Roy D. McClure, of Detroit; Dr. Arthur Steindler, of Iowa City; and Drs. Philip H. Kreuscher, Michael L. Mason, and Fred E. Adair, of Chicago.

The subjects for panel discussions which have already been selected are: "Appendicitis," "Blood Transfusion," "Choice of Anesthetics," "Cranio-cerebral Injuries," "Diagnosis and Surgical Management of Acute Perforations of Duodenal Ulcer," "Diagnosis and Surgical Management of Traumatic Injuries of the Abdomen," "Endocrinology in Gynecology," "Evaluation of Cancer Therapies," "Indications for Cesarean Section," "Injuries to the Hand," "Management of Acute Surgical Infections," "Peripheral Vascular Diseases," "Plastic Surgery," "Recent Developments and Surgical Management of Diseases of the Biliary Tract," "Recognition and Management of Hyperthyroidism," "Stomach Surgery," "Surgical Management of Gangrene of Extremities with Special Reference to Diabetes," "Thoracic Surgery—Prevention of Postoperative Complications," "Toxemias of Pregnancy," "Treatment of Burns," "Treatment of Delayed and Nonunion of Fractures," "Treatment of Infections of the Genito-urinary Tract," "Treatment of Open Wounds with Special Reference to Compound Fractures," and "Treatment of Traumatic Injuries of the Back."

The clinical program will also include a wide range of subjects. Of special interest will be the cancer clinic at the Western Pennsylvania Hospital and the fracture clinic at St. Francis Hospital. The meeting on health conservation will be held in Carnegie Music Hall.

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MRS. GEORGE C. YEAGER, *Editor*

1419 E. Susquehanna Avenue

Philadelphia, Pa.

PRESIDENT'S LETTER

DEAR AUXILIARY MEMBERS:

We hear and read so much discussion now on the radio and in the press concerning the preparedness of our country in this world crisis. As women we are all allied with the Red Cross, with Bundles for Britain, or with some relief work in one form or another. This work is a challenge to our emotions for the suffering and chaos in Europe. As usual, we are looking over the fence at our neighbors when perhaps our own yard needs weeding.

My attention has been drawn to the fact that many of our physicians in Pennsylvania have not answered the A. M. A. questionnaire which was sent out months ago by their county societies. It is so much better if this material is sent voluntarily. As wives, we can each assume a real responsibility. Ask your husbands, immediately, if they have answered this questionnaire. If they haven't, subtly suggest that it should be done at once. Don't let your husband forget that duty. See to it that he takes it out of the desk drawer, where he put it for future reference, and suggest that he send it in at once. Procrastination will not help their profession. This is an obligation which they must assume, and it is better that the required tabulation come from the profession itself rather than from a local defense committee. Don't let anyone say that the physician is neglecting his duty. Exercise your wifely prerogative and get it done!

The midyear board meeting was held in Harrisburg on Jan. 30. A large attendance assured increased interest in our projects and the reports were very satisfying. Convention plans were discussed; so begin now to get your reports and exhibits ready, because the meeting promises to be instructive and entertaining. Suggest to friend husband that you must go this year—that you don't want to miss the fun.

Best wishes for your continued success!

Cordially yours,

MARY (MRS. MAXWELL) LICK, *President*.

FIRST COUNCILOR DISTRICT MEETING

The meeting of the First Councilor District of the Woman's Auxiliary was held on Jan. 14 at the Philadelphia County Medical Society Building, and was presided over by Mrs. W. Burrill Odenatt, councilor for this district.

George C. Yeager, M.D., councilor of the First District of the State Medical Society, spoke at the meeting and urged the women to continue their good work for the medical society. He declared that women more and more are becoming a force for good, and their influence will make itself felt increasingly in the world just as it has made itself felt in the medical society. He also spoke of the various sums of money the auxiliary members have raised for the Medical Benevolence Fund maintained by the State Society to assist needy physicians and their families.

Other speakers included Mrs. Odenatt, the councilor; Mrs. C. Fred Rau, president of the Philadelphia Federation of Women's Clubs and Allied Organizations, who is also the wife of a physician; Dorothy Case Blechschmidt, M.D., a surgeon and wife of a physician, and chairman of public health of the Philadelphia Federation; Francis F. Borzell, M.D., president of the State Medical Society; Edward L. Bortz, M.D., president of the Philadelphia County Medical Society; Mrs. J. Newton Hunsberger, former State Auxiliary president; and Mrs. Wilmer Krusen, former president of the Philadelphia County Auxiliary, and president of the Women's Club of the College of Pharmacy and Sciences.

A delightful luncheon was served before the meeting.

SECOND COUNCILOR DISTRICT MEETING

The meeting of the Second Councilor District was held on Sept. 12, 1940, at Trainor's Restaurant, Quakertown. Luncheon was served to the physicians, their wives, and their guests.

Immediately after luncheon, at 2:30 p. m., the twelfth annual meeting of the Second Councilor District of the Woman's Auxiliary to The Medical Society of the State of Pennsylvania was called to order. Mrs. E. Arthur Whitney, councilor for the Second District, presided. Mrs. Walter A. Landry was appointed to act as secretary.

Mrs. Clyde R. Flory, past president of the Bucks County auxiliary, who was acting in the absence of the president, Mrs. Albert A. Gonzalez, greeted and welcomed the members and guests. Mrs. Flory then introduced Mrs. Harvey P. Feigley, of Quakertown, who had assisted her so ably in preparations for the luncheon.

The following were presented to the members: Mrs. J. Newton Hunsberger, past state president and past national president; Mrs. Wellington D. Griesemer, past state president; Mrs. Francis F. Borzell, wife of the president-elect of the State Medical Society; Mrs. Edgar S. Buyers, wife of the councilor for the Second District; Mrs. John A. Farrell, former councilor of the district; Mrs. Charles J. Swalm, president of Philadelphia County Auxiliary; Mrs. M. Fraser Percival, convention chairman; Mrs. William G. Miller, first councilor of the district; and Mrs. George C. Yeager, state publicity chairman.

The report of the registration chairman showed that 103 ladies were present, the largest number ever in attendance at a meeting of the Second Councilor District.

County reports for the 6 auxiliaries were read and the presidents introduced, each president reading her own report except in the case of Bucks County, whose president was not present.

These reports were summarized by the district councilor, who pointed out that the membership of the district as a whole was nearly 500, that *Hygeia* subscriptions totaled 593, and that \$960 was given to the Medical Benevolence Fund, which with \$660 donated to community charities made a total of \$1,620 given to charitable causes.

Mrs. M. Fraser Percival spoke briefly to the members and guests, telling them of her hopes and plans for the state convention and asking each member present to attend.

The guest of honor, Mrs. Maxwell J. Lick, president-elect of the State Auxiliary, was next presented and spoke very earnestly regarding the traditions of the medical profession and of the responsibility of the auxiliaries in upholding these traditions.

The Bucks County Auxiliary was thanked for all the time and effort expended for the comfort of the guests at this meeting. The meeting adjourned on a rising vote of thanks.

COUNTY AUXILIARY REPORTS

Beaver.—Mrs. Maxwell Lick, president of the State Auxiliary, addressed 29 members of the auxiliary at a luncheon meeting in the Penn-Beaver Hotel, Beaver, on Jan. 10.

Mrs. Thomas W. McCreary, program chairman, presented Mrs. Lick, who gave an informal talk on subjects of vital interest to the medical profession. Mrs. John A. Mitchell presided over the short business meeting.

Mrs. Mitchell and Mrs. John H. Gemmell, of Beaver, attended a meeting of the Lawrence County Medical Society at New Castle on Jan. 9.

Chester.—The auxiliary held its regular monthly meeting on Jan. 21 at 2 p.m. at the Chester County Hospital. There were 12 members present. Following a short business meeting, the time was spent in sewing for the hospital.

The treasurer reported a balance in the treasury of \$60.91 after all current bills were paid. The president, Mrs. J. Oscar Dicks, reported that she had received 39 knitted articles from the knitting group, which will be given to Bundles for Britain and the Red Cross.

At the Councilor District Meeting and Reciprocity Luncheon in Philadelphia on Jan. 14, the auxiliary was

represented by Mrs. Dicks and Mrs. Robert C. Hughes, who reported a most interesting program. A dinner meeting of the Health and Welfare Council was announced for Mar. 19 at the New Century Club, West Chester, with Henry Pleasants, Jr., M.D., as speaker. Tea was served at 4:30 p.m.

Crawford.—Our newly formed auxiliary has already proven to be a very active group. Thirty-seven members attended the December dinner-meeting at the home of the president, Mrs. Vincent G. Hawkey. The singing of carols, accompanied by Mrs. Ruth Skinner and directed by Mrs. Ruth Mervine, radiated the Christmas spirit. A business session followed the dinner, at which time an unexpected surplus was added to the treasury by the very efficient committee assisting the chairman, Mrs. William H. Brennan.

On Jan. 7 the stated monthly meeting of the executive board was held, followed by luncheon and an afternoon of bowling. The Duckpin League has become very popular and a paying project. Even during the busy holidays the usual number took part, and 12 children of physicians were there. Many Crawford County physicians and their wives have been bowling an evening each week.

Mrs. Joseph R. Gingold and Mrs. Frederick H. Muckinhaupt, the committee for the sale of *Hygeia*, have canvassed the county with amazing results judged by the many subscriptions procured. Theirs has been a creditable work, far surpassing the goal set for them.

The new officers are: President, Mrs. Vincent G. Hawkey; president-elect, Mrs. John M. Kinnunen; first vice-president, Mrs. Luther J. King; second vice-president, Mrs. Kenneth A. Hines; recording secretary, Mrs. H. Paul Bauer; corresponding secretary, Mrs. John G. Beck; treasurer, Mrs. Herman H. Walker. Committee chairmen: philanthropic, Mrs. John P. Hobson; by-laws, Mrs. Maurice T. Leary; exhibit, Mrs. S. Gottlieb; hospitality, Mrs. William H. Brennan; historian and clippings, Mrs. Edgar J. Deissler (Dr. Coletta); membership, Mrs. Joseph R. Gingold; legislative, Mrs. John C. Davis; membership, Mrs. S. Frank Hazen; program, Mrs. James N. Strausbaugh and Mrs. Ned D. Mervine; public relations, Mrs. J. Charles McFate; publicity, Mrs. George E. Hayward.

Delaware.—Our initial meeting for 1941 was a combined meeting with the Delaware County Medical Society, held at the Chester Club, Chester, on Jan. 9, where we enjoyed "movies" of a vacation trip to the "Golden West" and a dinner.

Five members of our group attended the combined Councilor District and Reciprocity meeting of the Philadelphia County Auxiliary at the County Medical Society Building in Philadelphia on Jan. 14. It was a very friendly and enjoyable affair.

As this is being written we are planning a dessert bridge at the home of Mrs. E. Arthur Whitney, of Elwyn, on Jan. 31 for the benefit of the British War Relief. We are hoping for the enthusiastic support of our members and friends.

Erie.—The auxiliary met on Dec. 2, 1940, at the home of Dr. and Mrs. T. Palmer Tredway. Members brought donations of food and toys for the Municipal Hospital. Mrs. Ralph D. Bacon gave an interesting report on some important women in medicine and Mrs. Bruce Wright reviewed the book, *The Fire and the Wood*. A delightful tea followed with 59 present.

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From the uses of trochanter belts as given by orthopedists, we list the following:

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- In abnormal separation of the symphysis pubis during pregnancy and during the postnatal period. This belt, being narrow both in the front and in the back, allows a prenatal or postnatal support to be worn over it.
- In fractures of the lower portion of the pelvis; fractures of the rami of the pubic bone and of the ischium especially. It may be used also as an immediate dressing during transportation of the patient.
- After recovery from fractures involving the neck of the femur when the patients get up from bed and begin to walk.

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On Dec. 7, 1940, the auxiliary held a successful benefit party in the Lawrence Hotel, Erie, with Mrs. George S. Dickinson, chairman.

On Jan. 6 the auxiliary met at the home of Dr. and Mrs. Elmer Hess. Mrs. John F. Hartman, president, presided. Christmas baskets were sent to 15 families in December. Dr. Paul Giddens, of Allegheny College, gave an interesting talk on how the United States is situated in regards to England, Japan, and South America in the present world crisis. Forty-nine members were present.

Franklin.—The auxiliary held its annual Christmas dinner in Greencastle, Dec. 12, 1940, at 6 o'clock in the social room of Trinity Lutheran Church. The entertainment was in the form of a Dutch dinner, which was served by the Aid Society of the church. Quaint old table cloths, old-fashioned dishes, castors, and antique pewter formed the table appointments. One old pewter bowl from which small cakes were served had been brought from Lebanon in 1816. An olden time menu was served, with all the food placed on the tables.

Following the dinner, Rev. E. G. Colestock, of Fairfield, led the assemblage in the singing of Christmas carols, and he sang a solo, "I Shall Not Pass Again This Way," by Effinger. Carrying out the Dutch theme were the monologues given by Mrs. H. W. Barnard, of Lancaster, who has made a study of the Amish of that section. Mrs. Barnard in perfect Dutch dialogue and garbed in the dress of the Amish presented "Rachel's Family," "Dentist Office," and "In the Market."

Mrs. Ira M. Henderson, president of the auxiliary, presided at the dinner and entertainment. The auxiliary had as its guests the members of the Franklin County Medical Society. It proved to be a very enjoyable evening.

Indiana.—The auxiliary met on Jan. 9 in the staff room of the Indiana Hospital. Following the business session, presided over by Mrs. Harry B. Neal, the ladies were taken to the operating room of the hospital by the superintendent, Miss Lillian Hollohan. There Miss Marguerite Shannon and Dr. Jones, an intern, demonstrated by roentgen ray and instruments the latest methods used in plastic bone surgery.

Miss Kemp, of the Child Welfare Bureau, then told of the work done among the children in the county that come under her care.

Refreshments served by Mrs. Thomas W. Kredel and Mrs. James E. Peterman, of Indiana, and Mrs. William F. Peters, of Homer City, brought the afternoon to a close.

Lackawanna.—A White Elephant Auction party followed the regular meeting held on Jan. 14 in the Chamber of Commerce Building, Scranton. Mrs. D. Anthony Santarsiero auctioneered the "elephants," and Miss Gretchen Houser was in charge of the affair. The proceeds were applied to the Medical Benevolence Fund. The party was a noteworthy success.

Mrs. Louis A. Milkman, president, presided at the business meeting. Reports were given by Mrs. Ferdinand A. Bartecchi, treasurer; Mrs. Frederic B. Davies, recording secretary; Mrs. Daniel E. Berney, auditor; Mrs. Ulrich P. Horger, *Hygeia* chairman; Miss Gretchen Houser, entertainment chairman; and Mrs. J. Norman White, program chairman.

Lehigh.—On Tuesday afternoon, Jan. 14, the regular monthly business session was held at the Woman's Club, Allentown, with the president, Mrs. Elmer H. Bausch, in charge. Mrs. Frederick R. Bausch, Sr., chairman of the by-laws committee, gave the final reading of the by-laws. The auxiliary accepted the revised form which changes our fiscal year to conform with that of the State Auxiliary. The members voted to participate in the March of Dimes campaign.

After the meeting 11 new members welcomed into the auxiliary during the year 1940 were honored at a tea with a New Year theme. This was arranged by the hospitality committee, Mrs. John H. Hennemuth, of Emmaus, chairman. Mrs. Harry J. S. Keim, of Catasauqua, and Mrs. Mark A. Bausch, of Allentown, poured.

In the evening the physicians were hosts to their wives and auxiliary members at a banquet and dance held at the Americus Hotel, Allentown. The affair was well attended. Mrs. Elmer H. Bausch gave the annual report of the auxiliary. Frederick G. Klotz, M.D., was the retiring president and Paul C. Shoemaker, M.D., the new president of the medical society.

Lycoming.—The auxiliary held its monthly meeting at the Woman's Club, Williamsport, Dec. 13, 1940, preceded by the usual luncheon. A short Christmas program followed. Mrs. T. M. B. Hicks told a Christmas story and Mrs. Amos V. Persing sang Christmas songs. At the business meeting, plans were perfected for the annual Christmas dance. Mrs. Carl H. Senn, *Hygeia* chairman, made a request for subscriptions. A motion was made and passed that the auxiliary make a contribution of \$5.00 to the Lycoming County Crippled Children's Fund.

Approximately 1000 persons attended the twelfth annual Christmas dance of the auxiliary, which was held at the Hotel Lycoming on Dec. 27. Ray Herbeck and his 12-piece band from New York City furnished the music. Mrs. Galen D. Castlebury and her committees were responsible for bringing the dance to such a successful climax.

Mifflin.—On the second Tuesday of December the auxiliary had a luncheon at Green Gables Hotel, Lewis-town. Mrs. S. Meyer Klein, chairman of the social committee for this month, was ably assisted by her corps of workers. The table was artistically decorated in the season's colors of red and green with a large centerpiece of holly, pine cones, and candles.

A meeting was held after the luncheon, at which time Mrs. A. Reid Leopold, the president, transacted the following business. Reports were heard from the vari-

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ous committees. A voluntary contribution amounting to \$38 was taken to purchase a bed for the Lewistown Hospital. A collection was also taken to buy new lamps to be used for Christmas decoration at the Lewistown Hospital. Some subscriptions were taken for *Hygeia* and *The Bulletin*.

A Health Institute is under way, which is in charge of the Public Relations Committee. Mrs. Joseph S. Brown is chairman, and arrangements are being made to have one in the near future or at the discretion of the committee.

After the business session, the afternoon was spent in playing bridge.

On Wednesday evening, Jan. 6, the members of the auxiliary were the guests of the Mifflin County Medical Society at their annual dinner and dance at Green Gables Hotel. A turkey dinner was served at 9 o'clock. At its close Henry A. Kimmel, M.D., the outgoing president, made his address and was followed by Marlin W. Helfrick, M.D., the newly elected president for 1941, in a brief talk. Bryce E. Nicodemus, M.D., chairman of arrangements, invited the guests to the social room where a literary program had been prepared, and Mrs. Gree Luck entertained most delightfully with a number of readings. After this the evening was spent in dancing and playing cards.

Philadelphia.—On Jan. 9 the Philadelphia Federation of Women's Clubs held their Public Health Forum, and our public relations chairman, Mrs. M. Fraser Percival, was asked to supply the speakers at this all-day meeting.

On Jan. 14 the regular meeting of the auxiliary was held in the County Medical Society Building. This was a combined Reciprocity and Councilor District meeting. A luncheon preceded, with neighboring presidents as guests. Music was furnished by Mrs. Frederick H. Allen, accompanied by Mrs. Walter I. Lillie, 2 of our own members. After a short business session presided over by Mrs. Charles J. Swalm, our president, and addresses by Francis F. Borzell, M.D., president of the State Medical Society, and Edward L. Bortz, M.D., president of the Philadelphia County Medical Society, the meeting was turned over to Mrs. W. Burrill Odenatt, councilor of the First District of the State Auxiliary. The councilor district meeting followed.

Somerset.—The July, 1940, meeting of the auxiliary was the annual outing with the medical society at the Somerset Country Club. An afternoon of outdoor sports, including golf and tennis, was followed by a dinner in the evening.

The September meeting was held at the Ferner Hotel, Somerset, preceded by dinner with the members of the medical society. The elected officers of the auxiliary are: President, Mrs. Bruce Lichty; first vice-president, Mrs. Charles B. Korn; second vice-president, Mrs. Samuel E. Hoke; treasurer, Mrs. Robert J. Heffley; secretary, Mrs. Henry A. Zimmerman. The president announced her committees for the coming year.

Miss Roth, state nutritionist, gave an outline of her work, it being supplemental to the work of the state nurse and the tuberculosis program. The Women's Field Army for the prevention of cancer was discussed by the members of the auxiliary.

The November meeting was held at Hollywood Inn. Mr. Roy Drenning, of Greensburg, a fingerprint expert, gave a talk on fingerprinting and showed some examples of his work. A film on syphilis was also shown at this meeting. The sum of \$25 was contributed to the Medical Benevolence Fund.

The dinner and reception for the newly elected officers of the medical society was held in the Ferner Hotel, Somerset, on Jan. 20, to which the members of the auxiliary were invited. The business session followed, with plans being made for the spring activities.

PROPOSED ADMISSIONS AND DELETIONS FOR THE NEW PHARMACOPOEIA*

The members of the U. S. P. Subcommittee on Scope held a 2-day session in Atlantic City on Jan. 4 and 5. Eighteen physicians and 4 pharmacists were present.

Dr. Soma Weiss, chairman of the Subcommittee on Therapeutics and his 14 medical colleagues, all but one of whom were present, submitted briefs reviewing the clinical and pharmacologic values of all new products proposed for standardization by the Pharmacopoeia. Before a substance or preparation was voted upon, the report relating to it from the physicians of this subcommittee was followed by a general discussion on the merits of the substance or preparation.

After a general review of the U. S. P. Scope policy, the members of the subcommittee reaffirmed the policy which has always applied to admissions and deletions in the United States Pharmacopoeia; namely, that the Scope Subcommittee has the right to select for the U. S. P. any substance or preparation not forbidden it legally.

A number of items tentatively admitted or deleted at a previous meeting, and recently widely publicized for comment, were on request again discussed and voted upon in the light of the comments received. As the result of the new vote, a few changes were made in the previously announced list of U. S. P. admissions and deletions.

Controlled Products.—This published list cannot include the titles of about 50 new substances already voted into the new Pharmacopoeia but the actual admission of which is dependent upon the completion of satisfactory agreements with those holding trademark or patent rights for the products.

Additional U. S. P. Preparations.—The Subcommittee on Scope believes that it can make the U. S. P. of

* Dr. Edward J. G. Beardsley, Philadelphia, and Dr. Harold B. Gardner, Pittsburgh, represented The Medical Society of the State of Pennsylvania in 1940 at the thirteenth decennial meeting of the Pharmacopoeial Convention for the Revision of the Pharmacopoeia.

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greater value to the medical profession if it increases the number of its preparations, and this question is being further studied.

If you hear comments on these proposals, write to E. Fullerton Cook, chairman of the Revision Committee of the United States Pharmacopoeia, Forty-third Street and Woodland Avenue, Philadelphia, Pa.

Articles Not Formerly Pharmacopoeial Now Recommended for the U. S. P. XII (Partial List)

Aluminum hydroxide and a preparation
Antipneumococcus serum (the new monograph to cover all types)
Blood, whole
Bismuth subsalicylate, oil suspension
Bromsulfalein-sodium
Calcium mandelate
Carbarsone
Cortin
Dextrose solution (for injection, 50%)
Dextrose (50%) and sodium chloride (30%) solution (for injection)
Dilantin sodium
Elixir of phenobarbital
Epinephrine hydrochloride solution, 1:100
Ethyl carbamate
Extract of rice polishings (tikitiki) (standardized for B₁ potency for use in the Philippines)
Ferrous sulfate, exsiccated
Glycocoll (amino acetic acid)
Halibut liver oil
Immune serum for scarlet fever, human
Immune serum for measles, human
Immune globulin (placenta extract), human
Magnesium trisilicate
Nicotinic acid amide
Ouabain
Picrotoxin
Picrotoxin solution (for injection)
Potassium chloride
Quinine hydrochloride
Quinine hydrochloride with ethyl carbamate solution (for injection)
Radium
Riboflavin
Ringer's solution
Serums, dry and liquid forms authorized for all U. S. P. serums
Sodium citrate solution, sterile
Soda lime
Sulfarsphenamine
Syrup of ammonium mandelate
Syrup of glycyrrhiza
Tablets of aminopyrine
Tetanus toxoid
Tetrachlorethylene
Theobromine with sodium acetate
Totaquinine
Transfusion normal plasma, human
Transfusion normal serum, human
Trichlorethylene
Urea
Vitamin A and D in oil (cod liver oil strength)
Yeast (standardized)

The following additional items, needed as "pharmaceutical necessities," must be added as new admissions:

Cudbear
Tincture of cudbear

Footnote: The following therapeutically active substances or vehicles, or the ingredients needed for these, recently announced as additions to the U. S. P. XII have been reconsidered and will not be included:

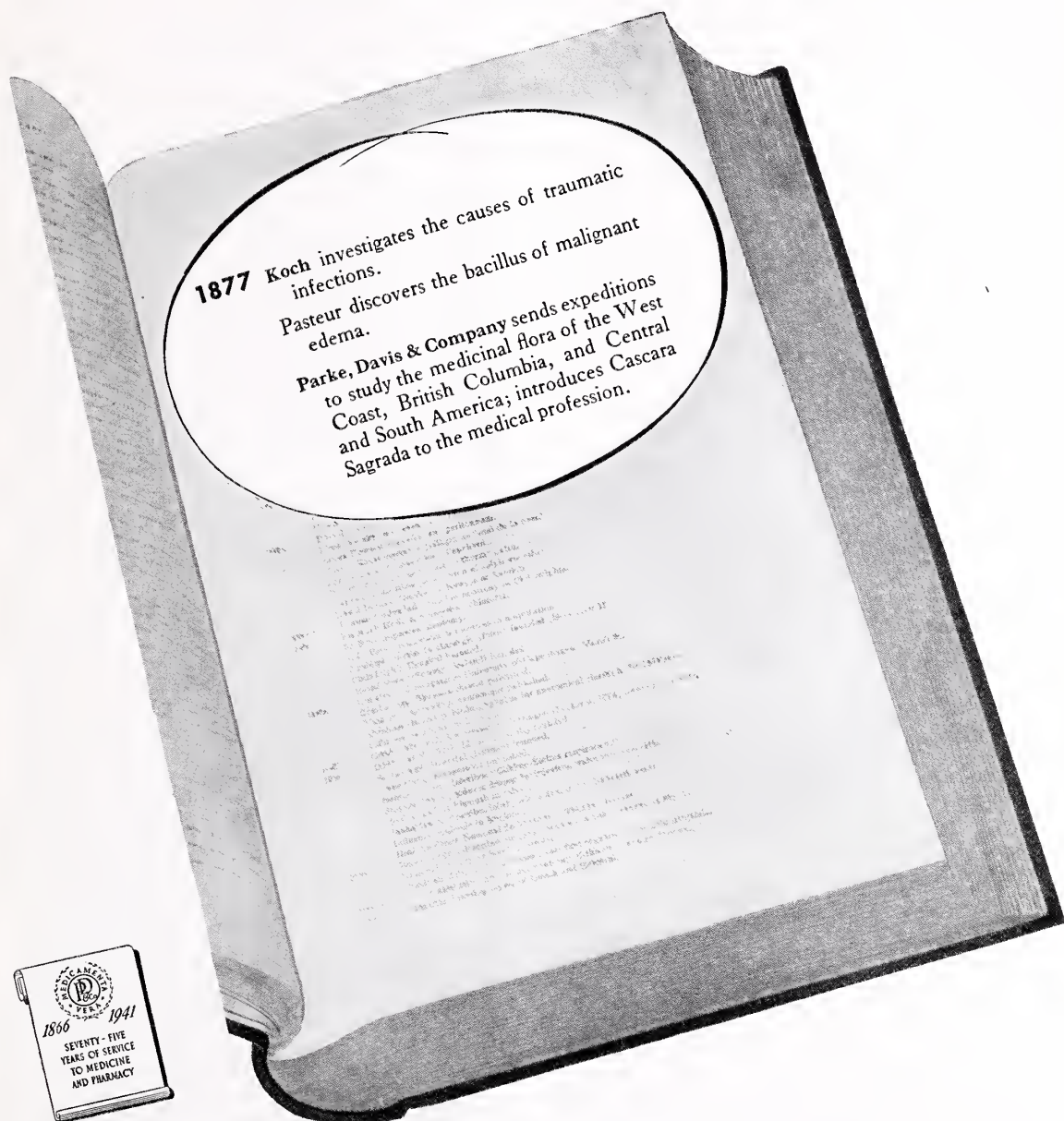
Prepared calamine
Calamine lotion
Calamine lotion, phenolated
Compound elixir of cardamom
Iso-alcoholic elixir
Elixir of terpin hydrate
Gas gangrene antitoxin
Zinc peroxide
Compound spirit of cardamom
Oil of caraway
Oil of cardamom
Raspberry juice
Syrup of raspberry
Oil of bitter almond
Spirit of bitter almond

Articles Official in the U. S. P. XI But Not Admitted to the U. S. P. XII—Commonly Spoken of as "Deletions"

Acetyltannic acid
Aconite
Acriflavine
Acriflavine hydrochloride
Adhesive plaster, nonsterile
Albumin tannate
Ammonium benzoate
Ammonium bromide
Ammonium salicylate
Aromatic sulfuric acid
Arsenic tri-iodide
Asafetida
Bismuth subgallate
Calcium bromide
Calcium creosotate
Cannabis
Cantharides
Cantharides plaster
Capsicum
Carbromal
Cerate of cantharides
Cinchona
Compound mixture of opium and glycyrrhiza
Compound powder of senna
Compound tincture of cinchona
Copaiba
Creosote
Creosote carbonate
Dichloramine-T
Diluted acetic acid
Diluted solution of sodium hypochlorite (Dakin's solution)
Elixir of glycyrrhiza
Emulsion of asafetida
Ethylhydrocupreine hydrochloride
Extract of cannabis
Extract of nux vomica
Fluidextract of belladonna root
Fluidextract of cannabis
Guaiacol
Iodoform
Iron
Kino
Magma of ferric hydroxide
Mass of mercury
Merbaphen

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 Quinine
 Resin of podophyllum
 Santonin
 Serpentina
 Sodium acetate
 Solution of ammonium acetate
 Solution of iron chloride
 Solution of iron tersulfate
 Spirit of chloroform
 Spirit of ethyl nitrite
 Squill
 Strychnine nitrate
 Sulfonethylmethane
 Syrup of ferrous iodide
 Syrup of squill
 Terebene
 Theobromine with sodium salicylate
 Tincture of aconite
 Tincture of cantharides
 Tincture of capsicum
 Tincture of ferric chloride
 Tincture of kino
 Tincture of squill
 Tincture of valerian
 Tincture of veratrum viride
 Valerian
 Veratrum viride
 Vinegar of squill
 Washed sulfur
 Yellow mercurous iodide

Footnote: This list includes additional items, recent deletions, and all of the deletions previously announced except the following which were reinstated as pharmacopoeial items at the recent meeting of the Scope Subcommittee:

Carbo activatus
 Colchici semen
 Tinctura colchici seminis
 Pancreatinum
 Pilocarpine nitrate

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following devices have recently been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Sears S-4 Sunlamp.—This sunlamp produces ultraviolet radiation and consists of a standard mazda S-4 type bulb together with a standard reflector following the curvature and reflection specifications. The type S-4 mazda sunlamp consists of an electric arc discharge through mercury vapor between activated metal electrodes sealed in a small quartz capillary tube, which in turn is enclosed in a bulb of special glass that is opaque to ultraviolet radiation of short wavelengths.

It operates on alternating current, but it requires an intermediary, especially designed, transformer to maintain the proper voltage and operating temperature. A mild erythema is produced in 6 minutes' exposure at 24 inches. Northern Electric Company, Chicago, manufacturer; Sears, Roebuck and Company, Chicago, distributor.

Driflash Electrosurgical Unit.—The Model C-100 Driflash is a spark gap electrosurgical unit intended for desiccation and fulguration by the monopolar technic only. It is a portable model, operated by a foot switch. Clinical investigation of the unit revealed that it gave satisfactory service. General Automatic Corporation, Macedonia, Ohio.

Westinghouse Sunlamp Model No. Es2404.—This sunlamp, containing an S-4 type lamp, provides ultraviolet radiation of an intensity and spectral distribution rendering it suitable for unsupervised use by the layman. The type S-4 Mazda sunlamp bulb consists of an electric arc discharge through mercury vapor, between activated metal electrodes sealed in a small quartz capillary tube, which in turn is enclosed in a bulb of special glass and is opaque to ultraviolet radiation of short wavelengths. It operates on alternating current, but it requires an intermediary, especially designed, transformer to maintain the proper voltage and operating temperature. A mild erythema is obtained in 6 minutes at 24 inches. Westinghouse Electric and Manufacturing Company, Bloomfield, N. J.

Continental Ultra Short Wave Unit Model SW-100.—This unit is used for medical and surgical diathermy. Pads, cuffs, inductance coil, surgical accessories, and metal electrodes are supplied as standard equipment. The unit operates on approximately 6 meters and utilizes 2 tubes in a self-rectifying, push-pull, tuned plate, tuned grid oscillating circuit. Clinical investigation of the unit revealed that it gave satisfactory service. Bedford Surgical Company, Inc., Brooklyn, N. Y.

General Automatic E-40 Lamp.—An infra-red generator mounted in a reflector having a polished metal reflecting surface. The reflector is mounted on an adjustable arm. The maximum height of the stand is 71½ inches. The lamp was found to give a very intense heat at what is considered a comfortable distance with other infra-red lamps. If placed at a greater distance or angled away from the area to be treated, the heat is then comfortable and pleasant. It is necessary to exercise caution when using this lamp owing to the intense heat. The lamp is bottom heavy and will not tip easily. General Automatic Corporation, Macedonia, Ohio.

Otarion Hearing Aid.—The Otarion Hearing Aid consists of a combined microphone and vacuum tube amplifier unit, A and B batteries enclosed in leatherette carrying case, and a crystal midget receiver with molded earpiece. The Council tests show that the instrument is reliable. Otarion Inc., Chicago.

Rose "Quartz-X" Ultraviolet Lamp.—This lamp produces ultraviolet radiation and is in the general class of "cold" or low pressure ultraviolet generators. It is a floor model type and is adjustable. It has 2 burners, one of fused quartz, the other of ultraviolet transmitting glass (Corex). Physiologic tests on untanned abdominal skin gave minimum perceptible erythema in the following time: Quartz burner, 90 seconds; Corex burner, 240 seconds; both burners, 75 seconds. E. J. Rose Manufacturing Company, Inc., Los Angeles, Calif.

MEDICAL NEWS

Birth

TO DR. AND MRS. PETER W. URBAITIS, of Wernersville, a son, Jan. 21.

Engagements

MISS MARGARET MARY TRACY, daughter of Dr. and Mrs. Stephen E. Tracy, of Philadelphia, and Mr. Wilmer M. Ritteman, of Halleck, Minn.

MISS FLORENCE PRIESTLEY LYON, daughter of Dr. and Mrs. Edward Lyon, of Williamsport, and Mr. Donald L. Cameron, also of Williamsport.

Marriages

MISS LOUISE F. HARTLEY to Richard D. Kraft, M.D., both of Johnstown, Nov. 2, 1940.

MISS FRANCES JEANNETTE LENKER, daughter of Dr. and Mrs. Jesse L. Lenker, of Harrisburg, to Mr. Ralph R. Lloyd, of Hershey, Jan. 31.

MISS CRYSTAL GLENORA WATSON, of Shippensburg, to Forney P. George, M.D., of Harrisburg, son of Dr. and Mrs. Henry W. George, of Middletown, Feb. 20.

MISS MARTHA JANE BODLEY, of Philadelphia, to Mr. Frederic Jefferson Kellam, Jr., of New York, son of Dr. and Mrs. Frederic J. Kellam, of Indiana, Feb. 15.

Deaths

HELEN MURPHY, Philadelphia; Woman's Medical College of Pennsylvania, 1893; aged 80; died Nov. 9, 1940.

HARVEY T. WICKERT, Emmaus; University of Pennsylvania School of Medicine, 1876; aged 85; died Oct. 11, 1940.

ROBERT TINION HODGSON, JR., Wilkinsburg; University of Pittsburgh School of Medicine, 1924; aged 41; died Nov. 16, 1940.

EFFIE C. MUNRO PAUL, Philadelphia; Woman's Medical College of Pennsylvania, 1893; aged 64; died Sept. 30, 1940, of carcinoma.

JOHN D. BOILEAU, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1887; aged 87; died Dec. 26, 1940.

WILLIAM MARSHALL HINKLE, Philadelphia; University of Pennsylvania School of Medicine, 1891; aged 77; died Nov. 21, 1940. He was retired.

MELISSA EVELYN THOMPSON COPPIN, Philadelphia; Woman's Medical College of Pennsylvania, 1910; aged 62; died Sept. 27, 1940, of acute endocarditis.

EDMUND B. SWEENEY, Philadelphia; University of Pennsylvania School of Medicine, 1904; aged 58; died Dec. 25, 1940. He is survived by his wife and a brother.

GEORGE WALLEY HECK, Bethlehem; Hahnemann Medical College and Hospital, Philadelphia, 1907; aged 59; died Dec. 9, 1940. His wife and 2 children survive.

JOHN H. WEIL, Philadelphia; Maryland Medical College of Baltimore, 1905; Hahnemann Medical College and Hospital of Philadelphia, 1906; aged 76; died Jan. 11.

CALVIN B. KNERR, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1869; aged 93; died Sept. 29, 1940. Two sons and a daughter survive.

CHARLES H. McDOWELL, Philadelphia; Hahnemann Medical College and Hospital, Philadelphia, 1887; aged 75; died Jan. 9. He is survived by his wife, a daughter, and a son.

WILLIAM H. WARRICK, Philadelphia; University of Pennsylvania School of Medicine, 1891; aged 73; died Dec. 7, 1940. He is survived by his wife, 2 daughters, and a son.

RUTH ALEXANDER, Honolulu, Hawaii; Woman's Medical College of Pennsylvania, 1909; aged 52; died Jan. 18. Dr. Alexander was a former member of the Philadelphia County Medical Society.

NEWTON H. JENKINS, Kingston; Hahnemann Medical College and Hospital, Philadelphia, 1905; aged 58; died Oct. 5, 1940. Dr. Jenkins held the rank of Major in the Medical Corps, Pennsylvania National Guard.

HERBERT EUGENE SIMRELL, Clarks Summit; Medico-Chirurgical College of Philadelphia, 1906; aged 59; died Sept. 28, 1940, in the Veterans' Administration Facility, New York, of arteriosclerotic heart disease and prostatic abscess. He served during the World War.

JOHN BENNETT, JR., Philadelphia; University of Pennsylvania School of Medicine, 1898; aged 75; died in the Presbyterian Hospital, Philadelphia, Oct. 6, 1940, after an illness of 3 months. Dr. Bennett was born in Philadelphia, Jan. 18, 1865, a son of John and Caroline Bennett. He received his early education in the Philadelphia public schools. He was acting physician at the Rush and the Orthopedic Hospitals in Philadelphia. A niece survives.

CHARLES MILLER GLASSMIRE, Philadelphia; Medico-Chirurgical College of Philadelphia, 1914; aged 53; died Oct. 7, 1940, after an illness of several months. Dr. Glassmire was born at Tamaqua, Dec. 13, 1886, a son of Elmer E. and Sally K. Glassmire. He attended Albright Preparatory School, and was graduated from Albright College in 1909. He was on the staff of the American Stomach Hospital, Philadelphia. During the World War he served as senior lieutenant in the U. S. Navy. Dr. Glassmire was married to Gretchen A. Radack in 1917, who is deceased. A son, a sister, and a brother survive.

WILLIAM K. MULLER, Philadelphia; University of Pennsylvania School of Medicine, 1900; aged 63; died Sept. 17, 1940, at the Kingston (N. Y.) Hospital, becoming ill at his summer home in Tannersville, N. Y. Dr. Muller, a native of Germantown, Philadelphia, the son of Augustus Frederick and Arvicia (Preston) Muller, was born Nov. 14, 1877. He received his early education at the Germantown Academy and his pre-medical course at the University of Pennsylvania. He served his internship at the Germantown Hospital, followed by a 2 years' residency at the Pennsylvania Hospital in Philadelphia. He was a member of the staff of the Germantown Hospital for 37 years. He was a former member of the board of governors of the Germantown Cricket Club. Dr. Muller was married to Marie Le Bron in 1911, who with a daughter and a son survives.

WILLIAM WILBERFORCE FARR, Philadelphia; University of Pennsylvania School of Medicine, 1887; aged 75; died in the Germantown Hospital, Philadelphia, Aug. 19, 1940, after an illness of 3 weeks. He retired in 1933. Dr. Farr was born in Philadelphia, Jan. 1, 1865, a son of John and Fanny (Watson) Farr. He

attended the local public schools, 1871-1878, German-town Academy, 1878-1882, and received his premedical course at the University of Pennsylvania, 1882-1884. He served as resident physician in the Children's and the Episcopal Hospitals, Philadelphia, for 2 years, and for 15 months held a similar post in the Johns Hopkins Hospital, Baltimore. Following this he pursued graduate studies in Berlin and Vienna. Upon returning to this country he started practicing medicine in Philadelphia. In 1897 he returned to Vienna, specializing in otolaryngology. During the World War Dr. Farr entered the Medical Corps of the U. S. Army as a first lieutenant and was promoted to captain. He was honorably discharged in 1918. At the end of the war he became a major in the Medical Reserve Corps, holding this rank at the time of his death. Dr. Farr served as surgeon to the outpatient department of the Episcopal Hospital, Philadelphia, 1893-1898, and visiting physician to the Church Home for Children, Philadelphia, 1893-1898. During 1898 he was assistant physician to the laryngologic clinic of the University of Pennsylvania, also visiting physician to the Leamy Home, Mt. Airy, Philadelphia, for over 25 years. Dr. Farr resigned from his county medical society in 1935. He was a member of the Pathological Society of Philadelphia, a Fellow of the College of Physicians of Philadelphia, a member of the University Club, the Philadelphia Cricket Club, the American Legion, and a companion of the Military Order of the World War. Dr. Farr was married to Virginia Harbert Whelen in 1902, who with 2 daughters and 2 sons survives.

Miscellaneous

THE PHILADELPHIA COUNTY MEDICAL SOCIETY sustained the loss by death of 41 of its members in 1940.

DRS. WILMER KRUSEN and Earl D. Bond, of Philadelphia, have been reappointed members of the board of trustees of the Philadelphia State Hospital.

LEONARD AVERETT, M.D., of Philadelphia, delivered an address before the Cuban Obstetrical and Gynecologic Society in Havana, Cuba, Jan. 27, on "Vaginal versus Abdominal Hysterectomy."

AT THE MEETING of the Philadelphia Academy of Surgery held on Feb. 3, at 8:15 p. m., at the College of Physicians' Building, "A Memoir of Charles F. Nassau" was delivered by Thomas A. Shallow, M.D.

NORRIS W. VAUX, M.D., of Philadelphia, discussed "The Maternal Pelvis in Relation to Labor" before the annual meeting of the Seaboard Medical Association, held Dec. 3 to 5, 1940, at Newport News, Va.

JOHN S. LOCKWOOD, M.D., of Philadelphia, discussed "Progress Toward an Understanding of the Mode of Chemotherapeutic Action of the Sulfonamide Compounds" before the Yale Medical Society at New Haven, Conn., Dec. 11, 1940.

THE SIR HENRY WELLCOME MEDAL AND PRIZE competition for 1941 has been announced. Anyone interested may communicate with the secretary of the Association of Military Surgeons of the United States, Army Medical Museum, Washington, D. C.

AT THE ANNUAL DINNER of the Philadelphia Neurological Society held at the University Club, Jan. 24, at 7 p. m., the presidential address was delivered by Samuel B. Hadden, M.D. The society paid honor and tribute to two of its members—Charles W. Burr, M.D., and James W. McConnell, M.D.

JOHN A. ROSE, M.D., of Philadelphia, has been appointed associate professor of psychiatry to the new Bowman Gray School of Medicine at Wake Forest, N. C. Dr. Rose has recently been on the staff of the Institute for Mental Hygiene of the Pennsylvania Hospital, Philadelphia, and the Philadelphia Child Guidance Clinic.

THE NEW YORK STATE CHAPTER of the American College of Chest Physicians met at the Hotel Biltmore, New York City, Jan. 17. The following Pennsylvania physicians were on the program: Chevalier L. Jackson, W. Emory Burnett, Frank W. Konzelmann, and Arthur I. Penta, all of Temple University Medical School of Philadelphia.

THE ANNUAL BANQUET of the York County Medical Society was held on Jan. 9. The guest speaker was Mr. Fred Essary, Washington correspondent of *The Baltimore Sun*, who spoke on "The World Today." One hundred members of the society were present. Herman A. Gailey, M.D., of York, was inducted as president of the society.

THE ANNUAL COMBINED DINNER MEETING of the Valley Medical Society and the McKeesport Academy of Medicine was held at the Penn McKee Hotel, McKeesport, Jan. 27. The speaker was William F. Petersen, M.D., professor of pathology at the College of Medicine, University of Illinois, Chicago. The title of the address was "Weather and the Practice of Medicine."

THE COLLEGE OF PHYSICIANS of Philadelphia, on Feb. 5, at 8:30 p. m., at the Hall of the College, conducted the forty-eighth Mary Scott Newbold Lecture. The subject of the lecture was "Studies in Ulcerative Colitis" and it was given by Thomas T. Mackie, M.D., assistant clinical professor of medicine, College of Physicians and Surgeons, Columbia University, New York.

O. H. PERRY PEPPER, M.D., professor of medicine at the University of Pennsylvania School of Medicine, Philadelphia, has been appointed by Secretary of War Henry L. Stimson to a 4-man board to investigate, prevent, and control infectious diseases in the nation's expanding armed forces. The other members of the board are: Francis G. Blake, M.D., professor of medicine at Yale University, chairman; Alphonse Dochez, M.D., professor of medicine at Columbia University; and Ernest Goodpasture, M.D., professor of pathology at Vanderbilt University.

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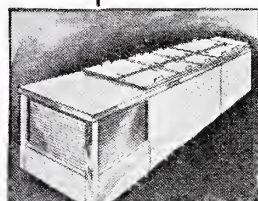
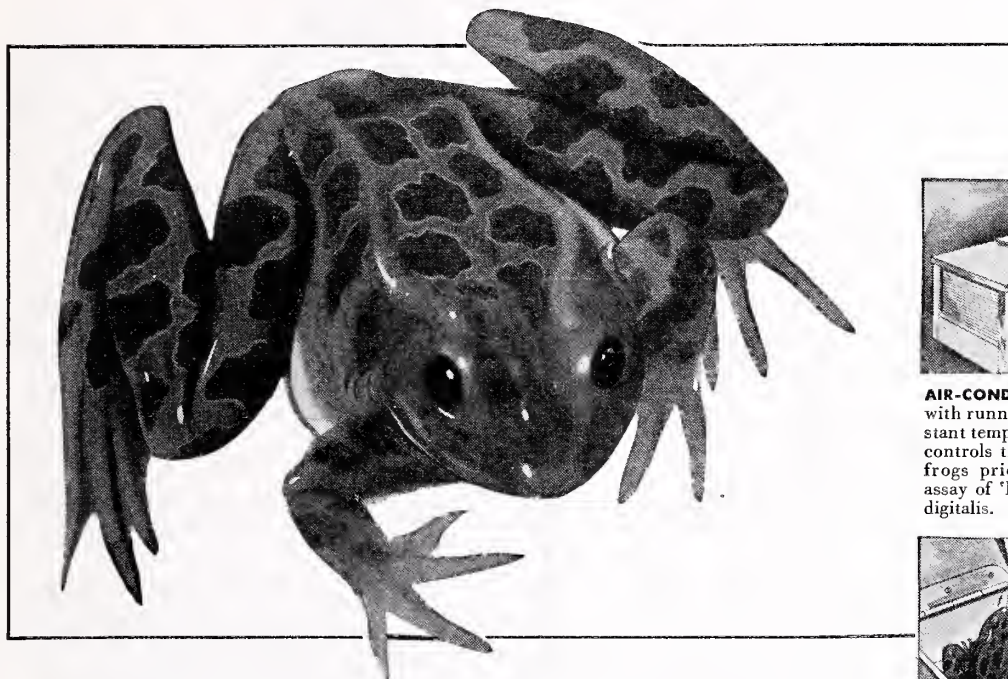
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BOOK REVIEWS

POPULATION, RACE, AND EUGENICS. By MORRIS SIEGEL, M.D., Hamilton, Ontario, 1939. Price, \$3.00.

Since the social privileges and duties of reproduction appear to be entrusted largely to the less successful and less efficient members of the community, it should be the duty of every physician to learn what he can do to help to increase the efficiency and health of the coming generation.

This book presents little that is new in this field, but it is small and covers the ground with interest and knowledge. It can be read in a few hours and serves as a refresher course in this up-to-the-minute subject. The problem of feeble-mindedness and insanity has reached a major proportion. The taxes for institutions to care for these people are enormous and can be decreased only by a knowledge of how to overcome the source of these cares on the state.

WHAT IT MEANS TO BE A DOCTOR. By DWIGHT ANDERSON. New York: Public Relations Bureau, Medical Society of the State of New York. Cloth, \$1.00. Paper cover, 25 cents.

This book is a handy little volume to have on hand when high school students ask the question, "Should I study medicine?" It answers from the author's own experience the many traits of character, psychology, and physical fitness that are required to make a good physician. It is small and inexpensive and many medical societies have given one to each of their members for use in their waiting rooms.

TEXTBOOK OF MEDICAL TREATMENT. Edited by D. M. DUNLOP, B.A. (Oxon.), M.D., F.R.C.P. (Edin.), professor of therapeutics and clinical medicine, University of Edinburgh; L. S. P. DAVIDSON, B.A. (Camb.), M.D., F.R.C.P. (Edin.), M.R.C.P. (Lond.), professor of medicine, University of Edinburgh; and J. W. McNEE, D.S.O., D.Sc., M.D. (Glas.), F.R.C.P. (Lond.), regius professor of practice of medicine, University of Glasgow. Foreword by A. J. CLARK, B.A. (Camb.), M.D., D.P.H., F.R.C.P. (Lond.), F.R.S., professor of materia medica, University of Edinburgh. Baltimore: William Wood, Williams and Wilkins Company, 1939. Price, \$8.00.

This book has been written by various authors, each of whom has a special knowledge of the treatment of the many ills that constitute a physician's practice. It is quite a comprehensive book for the student or practitioner.

The authors have attempted to give definite directions for treatment and have tried to avoid general and indefinite statements such as "a well-balanced diet should be tried."

They have also rid their book of the old drugs which have been antiquated for years but which are still included in many textbooks. The newer preparations have been included where they have been proved to be of value. Many new drugs appear on the market each year which have been given with the highest hopes of cure only to prove disappointing in a short time. It would be difficult to omit them all, for some may prove their worth. The authors have tried to take the position of accepting any remedy that has a chance to cure.

Physical therapy, diet, rest, etc., have been included with the idea that medicine alone is not all there is to treatment.

THE PATIENT'S DILEMMA. The Quest for Medical Security in America. By HUGH CABOT, M.D. New York: Reynal & Hitchcock, Inc., 1940. Price, \$2.50.

Although the subtitle of this book is "The Quest for Medical Security in America," it is not calculated to leave the reader, lay or medical, with any feeling of security. Instead, it creates the impression that the average individual private practitioner is incompetent, rapacious, and sometimes stupid; that fee-splitting is the rule rather than the exception; and that it is only the relatively high standard of living in this country that is responsible for the good health of the people.

This book, as is to be expected, is highly controversial. The author assumes an almost prophetic rôle while condemning the medical profession for sins of omission as well as of commission. The reader of this book should remember that perfection is not to be expected of the medical profession any more than of other human beings.

Dr. Cabot does not satisfactorily explain and define the terms good and inexpensive medical care. He does not state that most patients do not know what good medical care is, where to find it, what it costs, and who will pay for it.

The author recommends the establishment of group medical practice. His bias is toward government control of medical practice.

PNEUMOCONIOSIS (SILICOSIS): The Story of Dusty Lungs. A Preliminary Report by LEWIS GREGORY COLE, M.D., director of silicotic research, John B. Pierce Foundation, New York City, and WILLIAM GREGORY COLE, M.D., New York City. New York: John B. Pierce Foundation, 1940. Cloth. Price, \$1.00 (limited number).

This small book about the chest is written by one of the greatest authorities on chest conditions. It is well written and profusely illustrated with roentgen-ray plates to demonstrate the various lesions. It is particularly useful to industrial surgeons who have to do with coal-mining and cement or stone work, especially since the introduction of legislation to include pneumoconiosis as a compensable disease.

THE ERA KEY. To the USP XI & NF VI. Fifth edition. Revised by LYMAN D. FONDA, professor of pharmacy, Brooklyn College of Pharmacy, Long Island University. Newark, N. J.: The Haynes & George Co., Inc., 1940. Price, \$1.00.

This is a key book to the United States Pharmacopoeia and the National Formulary. It is a small handy volume for the use of physicians and pharmacists or a ready reference for those who wish a small, readily accessible book for quick use. It contains a complete list of the drugs, chemicals, and preparations of the U.S.P. and N.F.

This new fifth edition has been revised by Dr. Fonda to bring it up to date.

PHYSICAL DIAGNOSIS. By RALPH H. MAJOR, M.D., professor of medicine in the University of Kansas. Second edition, revised. 464 pages with 437 illustrations. Philadelphia and London: W. B. Saunders Company, 1940. Cloth, \$5.00.

Physical signs are produced by physical causes. These underlying physical causes must be understood

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before physical signs can be properly appreciated. The author, being cognizant of this fact, not only describes physical signs but points out the physical causes as well. His book does not contain a chapter on roentgenology, electrocardiography, and laboratory findings. It deals on the whole with physical signs pertaining to diagnosis. It is primarily written for medical students.

In this edition the section on the abdomen, genitalia, and the extremities has been enlarged and extended. The section on the examination of the nervous system has been rearranged and amplified. This book contains many valuable illustrations and diagrams. Dr. Major's revised edition of his textbook on physical diagnosis is a valuable text for every general practitioner.

MODERN DERMATOLOGY AND SYPHILOLOGY. By S. WILLIAM BECKER, M.D., associate professor of dermatology and syphilology, Kuppenheimer Foundation, University of Chicago, and MAXIMILIAN E. OBERMAYER, M.D., assistant professor of dermatology and syphilology, Kuppenheimer Foundation, University of Chicago. 461 illustrations in text. 32 full color plates. Philadelphia, London, Montreal: J. B. Lippincott Company, 1940. Price, \$12.00.

This new work, primarily intended for the student and practitioner, may also be of some value to the specialist. This last is true in regard to some of the chapters, as neurodermatitis, community aspects of

syphilis, etc., in which the authors are much interested. Some of the rarer diseases have been omitted as being of little interest in this country. The authors have also saved space by omitting from discussions of treatment practically all but those procedures which have been proven to be valuable. Not only is the arrangement of the groups of diseases different but the pages are double columned.

The grouping of diseases is according to the authors' ideas, both as to etiology and similarity. The chapters on neurodermatitis and occupational dermatitis are given much space because of their importance at the present time. The portion of the book devoted to syphilis is large and complete. It contains a folding chart which graphically portrays the salient features of the disease. The black and white illustrations are uniform in tone and all are good representations of the disease portrayed. Some of the color plates are above average.

APPLIED PHARMACOLOGY. By HUGH ALISTER MCGUGAN, PH.D., M.D., F.A.C.P., professor of pharmacology and therapeutics, University of Illinois, College of Medicine. Illustrated. 914 pages. St. Louis: The C. V. Mosby Company, 1940. Price, \$9.00.

An attempt to present a new idea in pharmacologic texts will naturally meet with considerable opposition from the more conservative members of that particular basic science. To the student and earnest young practitioner with an eye to finding things interesting and practical as far as applying book knowledge to everyday therapeutics is concerned, this volume will appear in a more favorable light.

Like any other phase of medicine, the science of pharmacology must remain in a constant state of flux and open to new ideas. Its interrelationship with the other basic sciences must be brought more and more to the fore else the subject has neither appeal for the student nor applicability for the practitioner. The author of this new textbook realizes the aforementioned points and has taken a step in the right direction, although, like any new idea, it is not perfect from the start.

One's first impression on reading through this book is that primarily it is actually a volume on physiology. It treats of the physiology of each system of the body and then after each discussion of function or abnormality in function, therapy is discussed, sometimes almost as an afterthought. For example, there are 2½ pages on the types and causes of shock and then only one-third of a page on its treatment. It is somewhat confusing at times to follow the sequence in this book. There are inconsistencies throughout. If the author intended to discuss drugs in relation to the functions they perform, then he should have clung to this idea rather than intermingle all chemically related drugs under a certain functional heading regardless of their action. For example, acetylsalicylic acid is included under the group of germicides and antiseptics and its function and usefulness summed up in one sentence, "It is used almost wholly as a headache remedy."

Considering the recentness of the sulfanilamide drugs, they are fairly well discussed, but several new forms of therapy are omitted. There is a notorious absence of the use of antipneumococcic sera considering the large

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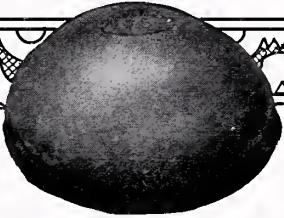
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Every precaution has been taken to insure accuracy in these advertisements and in this index, but there is no guarantee against errors or omissions.

part they have come to play in modern therapeutics. The vitamins, especially the much discussed vitamin B complex, are considerably underestimated in their therapeutic importance. Various new ideas in therapy such as the use of gentian violet internally in oxyuriasis, mercupurin as a mercurial diuretic, and acetylcholine and its important derivatives are completely omitted.

Perhaps, with a good system of cross-indexing and a rearrangement of some of the material with more stress on therapeutics, this book may be made more acceptable in future revisions. As it stands, it is a text with a good central theme but an ill-arranged and poorly integrated body of material.

MANAGEMENT OF THE CARDIAC PATIENT.

By WILLIAM G. LEAMAN, JR., M.D., F.A.C.P., assistant professor of medicine in charge of the Department of Cardiology, Woman's Medical College of Pennsylvania, Philadelphia. 255 original illustrations. Philadelphia, London, and Montreal: J. B. Lippincott Company, 1940. Price, \$6.50.

The insight of the author is suggested by this quotation from Corvisart (1806), which is found on the fly leaf: "Medicine is not the art of curing diseases, it is the art of treating them with the aim of relieving or soothing or contenting the patient." The fundamental insight of treating the patient rather than the disease is strengthened by all the laboratory aids—chemistry, roentgen ray, and electrocardiographs—all of which are well illustrated in this text. The work has a wide range of usefulness; for example, the beginner may find the exact anatomic location of the heart valves or the physician may learn the status of surgery in hypertension or the electrocardiographic pictures in acute cor pulmonale.

The method is by case presentation including illustrations of the cardiac silhouette, the timing of murmurs, the electrocardiograms, and the gross specimens. An excellent description of almost any cardiac anomaly is furnished. Dissecting an aneurysm of the aorta is a good example.

For the medical student or the busy practitioner who desires to bring his knowledge of heart disease up to date, I cannot point to a more valuable contribution.

GYNECOLOGICAL AND OBSTETRICAL PATHOLOGY.

With Clinical and Endocrine Relations. By EMIL NOVAK, A.B., M.D., D.Sc. (Hon. Dublin), F.A.C.S., associate in gynecology, The Johns Hopkins Medical School; gynecologist, Bon Secours and St. Agnes Hospitals, Baltimore. With 427 illustrations. Philadelphia and London: W. B. Saunders Company, 1940.

In this his latest work the author has made a notable contribution to medical literature which should be helpful to the student, the clinical gynecologist, and the pathologist. The pithy discussion of etiology, incidence, and symptomatology of each of the lesions of the female genital tract will appeal to the student. For the practicing gynecologist his many personal observations concerning the varying clinical aspects and the relation of one lesion to another will prove valuable. Pathologists will like the large number of photomicrographs, mostly drawn from the author's own collection, and the general omission of the opinions of others with which they are already familiar.

The author's classification of tumors of the ovary and the sections devoted to the discussion of those lesions are of outstanding interest. Chapters on ectopic pregnancy and carcinoma of the cervix are worthy of special mention. As presented, the book is so fully comprehensive as to constitute a reference work of handy size and ready access. It merits an enthusiastic reception and large circulation.

THE PENNSYLVANIA MEDICAL JOURNAL



VOLUME 44

NUMBER 1

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LEST WE FORGET

Francis F. Borzell



WILL THEY GIVE IT BACK TO THE INDIANS?

Officers' Department



VARYING REACTIONS

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MEDICAL CARE PROGRAM FOR F.S.A. CLIENTS IN MERCER COUNTY

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Francis W. White

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IN THIS ISSUE

SOME PROBLEMS ASSOCIATED WITH SURGERY OF THE BILIARY TRACT

Howard K. Gray



MINUTES OF HOUSE OF DELEGATES

Medical Preparedness—Public Assistance Medical Care—
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PENNSYLVANIA HEALTH INSTITUTE

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Current
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NUMBER 4



IN THIS ISSUE

RECENT STUDIES ON THE DIAGNOSIS OF HYPOTHYROIDISM IN CHILDREN

Lawson Wilkins



ROUND-TABLE CONFERENCE ON OFFICE SURGERY

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NO RETREAT FOR MEDICINE

An Editorial



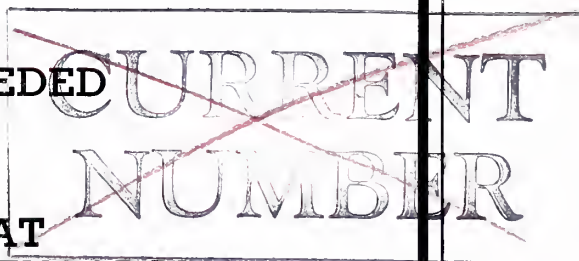
MORE FUNDS NEEDED

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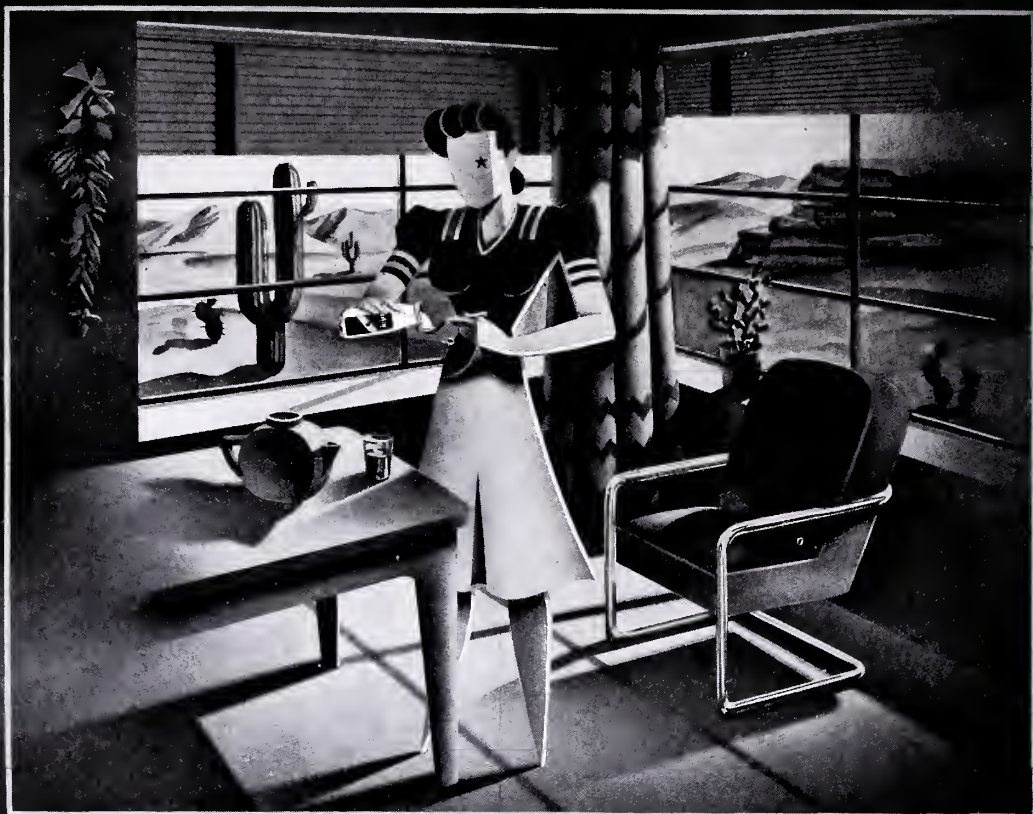


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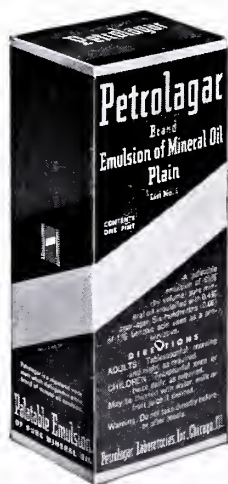
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IN THIS ISSUE

HYPERTENSION AND ALBUMINURIA IN PREGNANCY

Frederick C. Irving

10,000 WORDS ON USES OF SULFANILAMIDE GROUP

10 Topics--No Pneumonia--16 Discussants

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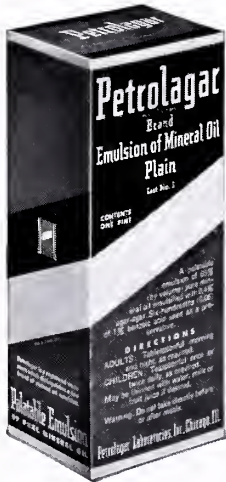
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THE PENNSYLVANIA MEDICAL JOURNAL

VOLUME 44

Current
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NUMBER 6



IN THIS ISSUE

THE MANAGEMENT OF HYPERTHYROIDISM COMPLICATED BY OTHER CONDITIONS

Richard B. Cattell



ORGANIZED MEDICINE IN A COMMUNITY HEALTH PROGRAM

Francis F. Borzell



ROUND-TABLE CONFERENCE ON VITAMINS

Complete Stenographic Report



THE CYCLOTRON

An Editorial



PREPAREDNESS IN PENNSYLVANIA

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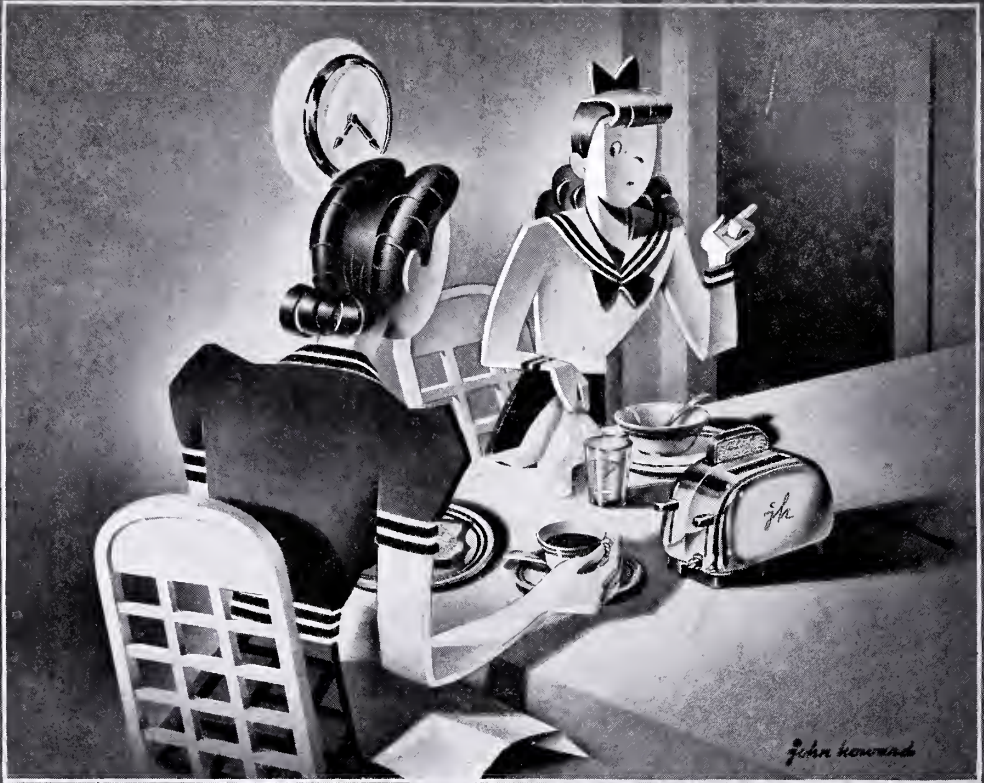
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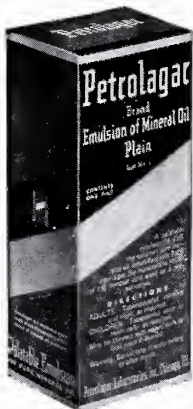
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The swaddled infant pictured at right is one of the famous works in terra cotta exquisitely modeled by the fifteenth century Italian sculptor, Andrea della Robbia. In that day infants were bandaged from birth to preserve the symmetry of their bodies, but still the gibbous spine and distorted limbs of severe rickets often made their appearance.



A bambino from the Foundling Hospital, Florence, Italy,—A. della Robbia

Glisson, writing in 1671, described an ingenious use of swaddling bands — "first crossing the Brest and coming under the Armpits, then about the Head and under the Chin and then receiving the hands by two handles, so that it is a pleasure to see the Child hanging pendulous in the Air . . . This kind of Exercise . . . helpeth to restore the crooked Bones. . . ."

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